FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JUNE, 1947

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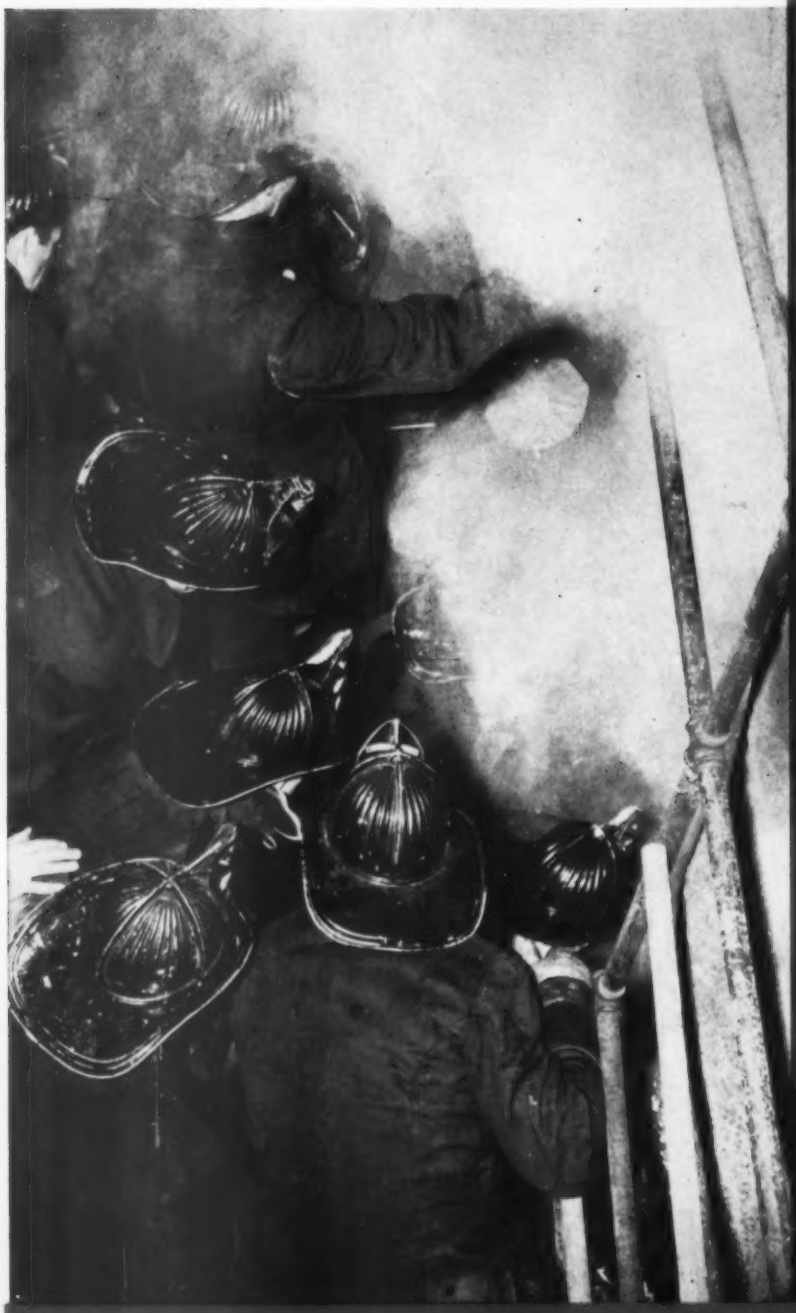
Coney Island (N. Y.) Has Second Large Fire Within a Year

A CASE · SHEPPERD · MANN PUBLICATION

RESUSCITATOR
EMERSON



ASPHYXIA *takes 50,000 lives every year!*

Emerson resuscitators are reducing this toll for fire fighters and all forms of asphyxia because this portable model permits "on-the-spot" treatment and can be applied to two victims at once. That's why they are essential equipment in so many fire departments. They're easy to operate and dependable.

Write today for the complete story of this latest model.

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Simultaneously alerting pedestrians and all traffic . . . while insuring safety to your vehicle and crew . . . the compelling effect of the Propello-Ray's roving blade of red light gets you *through*.

Double action means quicker re-action—for the natural warning of red is intensified in the Propello-Ray Light by a sweeping, rotating beam that can't be ignored.

Any hour . . . any season . . . the urgency of your call is dramatically announced with scintillating silence . . . there are no noisy gears or complicated parts in the high candlepower, sealed-beam Propello-Ray Light. All moving parts are handsomely encased in streamlined chrome weather-proof housing to guarantee dependable, satisfying service.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVCE

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FRED SHEPPERD
Editor

ROI B. WOLLEY
Assistant Editor

New York!— Mecca for Fire Chiefs!

IN shortly over two months, leaders in the world-wide fight against fire waste will be heading for the greatest city in the world.

- They will come from the four corners of the earth. They will speak many languages. But their interest is universal—the serious business of fire protection and fire prevention.
- They will come to attend the 74th Annual Convention of the International Association of Fire Chiefs which will be the guest of the City of New York and the world's largest fire department, August 19, 20, 21 and 22.
- This truly international gathering will be by far the greatest in the long history of the IAFC—greatest in attendance; in the scope and weight of its business sessions; and in its entertainment and social features.
- Matching this greatest of all fire chiefs' conventions will be the August Convention Number of FIRE ENGINEERING. This big issue will richly provide not only those who will attend the Convention, but the thousands who would like to be there but cannot, with the "who, what, when, where and how" of world-wide firemanship, including "printed exhibits" of the leading manufacturers of fire equipment and apparatus.
- Keep these two epochal events in mind: The IAFC Convention in New York City—and FIRE ENGINEERING for August!

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1947, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representative, ALFRED J. HOUGHTON; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.: SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

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"Specialized Leadership"

Some places they say:

"COMMITTEE WORK" *

But everywhere they say:

"Macks Stay New Longer"

In some fire departments "committee work" means the daily chores around the firehouse. Routine jobs like polishing brass, swinging the mop, cleaning the rig. But in over 1,000 departments the word for fire apparatus that *stays new* longer is Mack!

Mack fire engines have this reputation because of their precision construction, sound design and all-around ruggedness. No other manufacturer turns out as many of its own components as we do . . . only Mack has full control over every step in the making of its fire apparatus. You get longer life *out of* a Mack because we build longer life *into* it.

*** Send us *your* favorite expressions.**

Modernize with Macks! **Whether your department is large or small, there's a longer-lasting Mack suited for your purpose.**

250-year-old Bedford Village, N. Y., likes things that really last. That's why it is proud of this Mack 1000-gallon pumper, still winning prizes in its 12th year of service.

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TRIPLE COMBINATION PUMPERS — 500 to 1250 GALLONS • SQUAD WAGONS • CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

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- QUICK RELIEF OF PAIN
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FOR INJURIES

M·S·A

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- COMPLETE

Complete Kits, containing every needed first aid item—unit packaged, easy to get at, with each dressing or treatment ready for fast application to injury. All dressings sterile—all liquids hermetically sealed—All-Weather steel case has brackets for vehicle mounting. *Write for details!*

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THERE are many ways in which today's B. F. Goodrich fire hose is definitely better than the best prewar hose.

For example, a new way of twisting cotton strands has made a stronger cotton cord. A new way of weaving the jacket increases strength, eliminates weak spots and reduces weight. A new rubber compound—with greatly improved age resistance—has made the tube stronger, yet lighter. Add these all up and you get a *total weight reduction of 18%*. You've never seen a hose that's easier to handle—yet it's stronger than ever before.

There's a new *Koroseal* gasket that speeds up tight coupling—a new mildew treatment that gives the most complete protection possible—a patented end-protection that eliminates failures near couplings.

The next time you need fire hose, order B. F. Goodrich—the hose that is easier to handle and gets into action faster—the hose that outwears prewar hose and so reduces trouble and expense. *The B. F. Goodrich Company, Industrial Products Division, Akron, Ohio.*

Koroseal—Trade Mark, Reg. U. S. Pat. Off.

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FIRST IN RUBBER

FIRE PREVENTION EXPERTS
recommend
CENTRAL STATION-SUPERVISED
FIRE DETECTING AND ALARM SYSTEMS

From report of South-Eastern Underwriters Association on Hotel Winecoff fire

Where a modern, trained fire department exists, quick extinguishment of a fire may be expected if notification is given of the fire in its early stage. The installation of an approved *automatic* fire alarm system, transmitting an alarm to the fire department, *preferably through a central supervising company is desirable.*

From report of Cook County Inspection Bureau on Hotel LaSalle fire

The tragic results of this fire were brought about by the absence of means for fire detection and alarm. Every hotel should be provided with an approved alarm system. The prompt transmission of alarms to the fire department can best be secured *by means of Central Station Supervisory Service.*

From report of International Association of Fire Chiefs on fire protection for hotels

Requirements shall include frequent and regular inspection and test of all above mentioned systems. Proper supervision and maintenance of such protective systems are essential to reliable operation, and it shall be required that this procedure and the assurance of prompt transmission of alarms to the fire department can best be obtained by means of *Central Station Supervisory Service* wherever it is available.

• • •

Reports of fire protection experts who investigated the La Salle, Canfield and Winecoff hotel disasters point out that in all these fires the tragically fatal consequences were largely the result of belated discovery or delayed alarm, and stress the importance of fire detecting and alarm systems, *supervised and maintained through a central station agency.*

For hotels and all types of commercial and industrial properties, ADT provides Fire Protection Services including automatic and manual fire alarm systems, installed, supervised, inspected, tested and maintained through ADT Central Stations located in all principal cities of the United States. In more than 350 municipalities these systems are available with Central Station connection; elsewhere they are furnished as local or direct-to-fire department systems with ADT supervision, inspection, test and maintenance service.

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A NATION-WIDE ORGANIZATION

7 New WARD LA FRANCE PUMPERS for BOSTON

One of the new Ward LaFrance Pumpers delivered to the Boston Fire Department

Ward LaFrance is proud of the 7 new pumpers bearing their name that are now being shipped to New England's largest city.

A modernization program at the plants of Ward LaFrance in Elmira, N. Y., such as the six completely new buildings equipped with the latest machinery has provided increased capacity for manufacturing fire apparatus.

Deliveries of Ward LaFrance pumpers have increased steadily despite shortages of materials used in fire apparatus manufacturing. With a reasonable flow of materials from suppliers, increased deliveries of Ward LaFrance Pumpers will be assured.

These enlarged and improved manufacturing facilities place Ward LaFrance in the enviable position of being able to make deliveries unexcelled by any other producers during 1947 and the years following. This alone is a good reason to "Consider Ward LaFrance First" for fire fighting apparatus.

Ward LaFrance motor trucks, and fire apparatus are produced under the American System of Free Enterprise that has made possible the finest products, highest wages and the best living standards ever known.

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Great American Industries, Inc.

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To better serve the municipalities of America, the General Detroit Corporation has been appointed exclusive sales agent of famed Boston Woven Hose & Rubber Co's *Municipal* Fire Hose for virtually all of the United States, as well as for export markets.

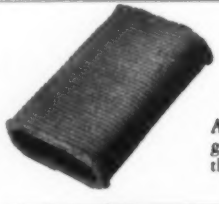
The progressive General Detroit Corporation and its subsidiary, the General Pacific Corporation, add their 44 years' experience in the manufacture of fire extinguishers and motor fire apparatus to the enviable 69-year record of Boston Woven Hose in producing the original cotton-jacketed hose, accepted as standard everywhere today

Municipalities across the land recognize the real economy of using dependably rugged BWH Fire Hose. The "smoke eaters" know its flexibility and ease of handling.

This pooling of effort means that BWH Fire Hose will now be available to municipalities through the branch offices and warehouses of the General Detroit Corporation in almost every section of the country. A "General" representative is nearby to help you. His knowledge and experience are at your service. Please call on him for dependable advice when next your city needs fire hose of dependable ruggedness.

BWH
"BOSTON FIRE JACKET" HOSE
Double Jacket

Outstanding value. A real quality hose for municipalities that want the best obtainable.



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Double Jacket

An exceptionally fine value. High-grade materials and workmanship throughout.

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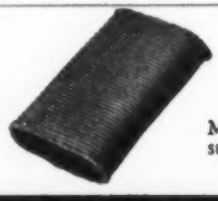
Single or Double Jacket

Made in strict accordance with National Board of Fire Underwriters specifications. Labeled or unlabeled.



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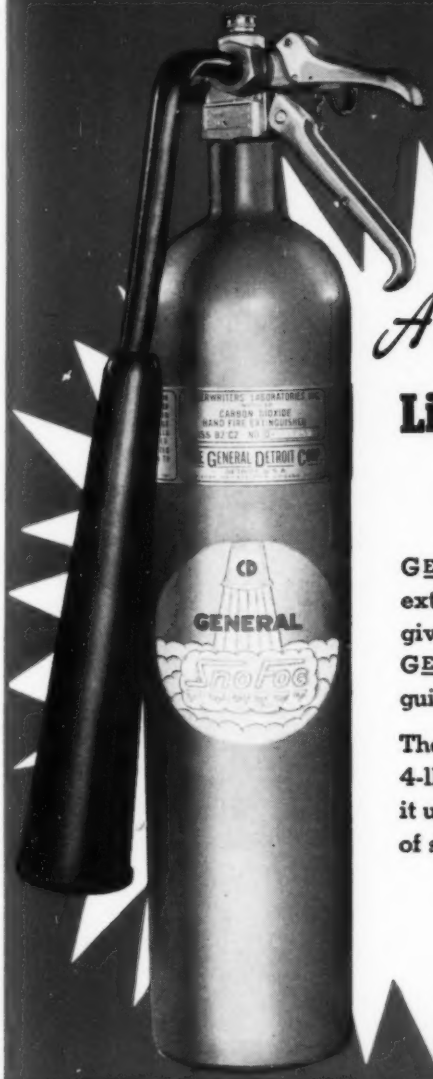

5 for 4

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GENERAL'S new 5-lb. CO2-SnoFoe carbon dioxide extinguisher costs no more than the 4-lb. size—yet gives you 25% more fire protection. This makes GENERAL CO2-SnoFoe the best buy in the fire extinguisher market—best for protection; best for economy.

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Motorola FIGHTS A Fire

• A blazing factory fire increased in intensity as a fire engine struggled to quench it. At this 4 a.m. hour there were no quickly available phones with which to call additional equipment.

An alert cabby cruising by came to the rescue with his cab's *Motorola 2-Way Radiotelephone,* and in a matter of seconds his dispatcher had contacted the city fire department and reported the need for additional equipment.

The only fire calls at the moment were the Motorola-dispatched messages which resulted in the arrival of the proper type and amount of fire fighting equipment to control and conquer the flames.

This instance, however, was by no means the first time that Motorola had provided a solution to a grave emergency. In time of floods, road washouts, explosions, or other hard-hitting catastrophes . . . to keep gas and oil pipe lines functioning always . . . as sentinel of public safety and civic well-being — Motorola Radiotelephone *has never failed to meet the test!*

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The new American-LaFrance cab-ahead-of-engine aerial has exceeded every expectation for performance. Replacing a city service ladder truck, the 85-foot aerial ladder is new to the men, but they handle it like veterans with years of aerial experience.

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The aerial ladder built of high-tensile corrosion-resisting steel, with full hydraulic power, provides fast, safe and sure operation. For rescue or water tower use, the American-LaFrance aerial has no equal in the fire service.

RECENT AERIAL DELIVERIES HAVE BEEN MADE TO

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LA FRANCE FIRE ENGINE-FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA

For Los Angeles

5

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powered by HALL-SCOTT

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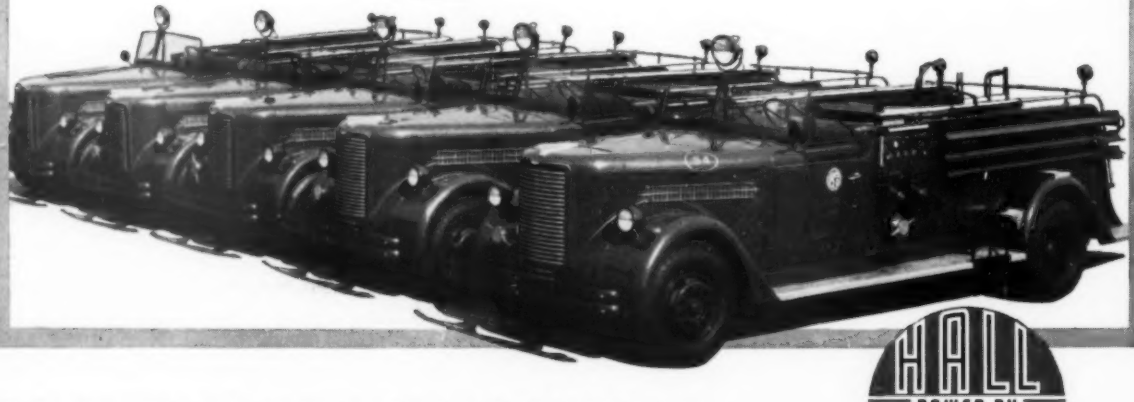

● On the road or at the scene of action, Hall-Scott Engines deliver their full rated horsepower at *less* than 2,200 RPM.

This means smooth operation . . . dependable operation . . . eco*nomical* operation, with minimum maintenance costs.

Moreover, the Hall-Scott unit design permits any part to be removed for servicing, a spare installed and the vehicle returned to the job while repairs are being made.

It is with pride we announce that such leading builders of fire apparatus as Peter Pirsch & Sons Company and Mack Manufacturing Corporation have standardized on the Hall-Scott "400" engine to power their large fire-fighting units.

HALL POWER BY SCOTT

HALL-SCOTT

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CELLAR PIPE

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The WaterFOG Head which discharges high velocity WaterFOG, rotates freely without leakage on high quality precision thrust-bearings. When in operation, the head revolves in perfect dynamic balance in any position.

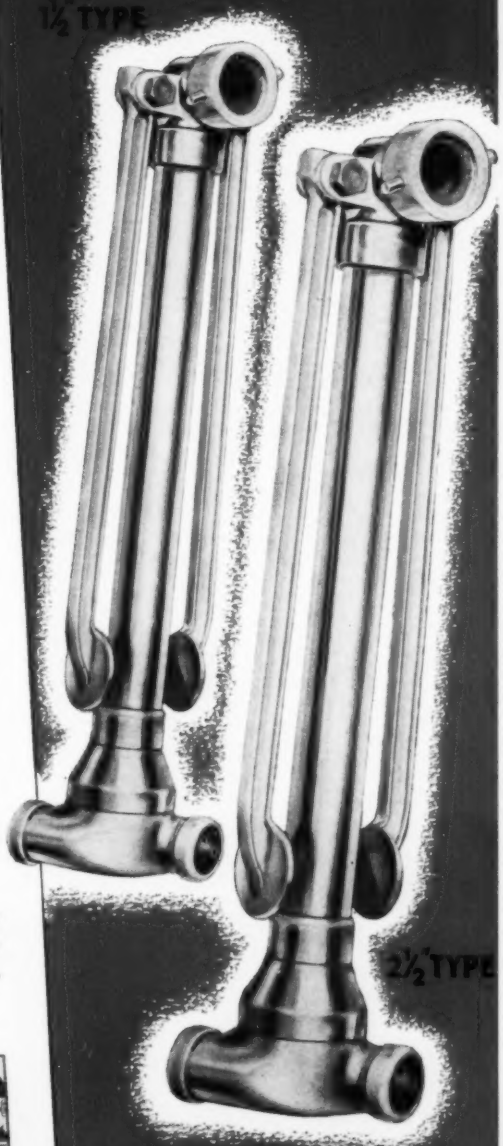
The Nozzle itself is long enough to clear beams, joists and other obstructions, when inserted in a cellar or attic. Easy to handle in action, this unit is sturdy, compact, light weight and corrosion resistant.

Available in 1½" and 2½" sizes for fire hose lines, the Rockwood WaterFOG Cellar Pipe will operate effectively at pressures ranging upward from 30 p. s. i.

Write for prices and additional information.

CELLAR FIRES

ATTIC FIRES



New Rockwood WaterFOG Head Rotates freely without vibration because it is equipped with thrust-bearings. This allows the WaterFOG Head to discharge in any position a fine even pattern of WaterFOG that will quickly knock down and extinguish fires in cellars and attics, under piers and bridges, etc.

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ROCKWOOD

SPECIALISTS IN FIRE PROTECTION ENGINEERING EQUIPMENT AND INSTALLATION SINCE 1907

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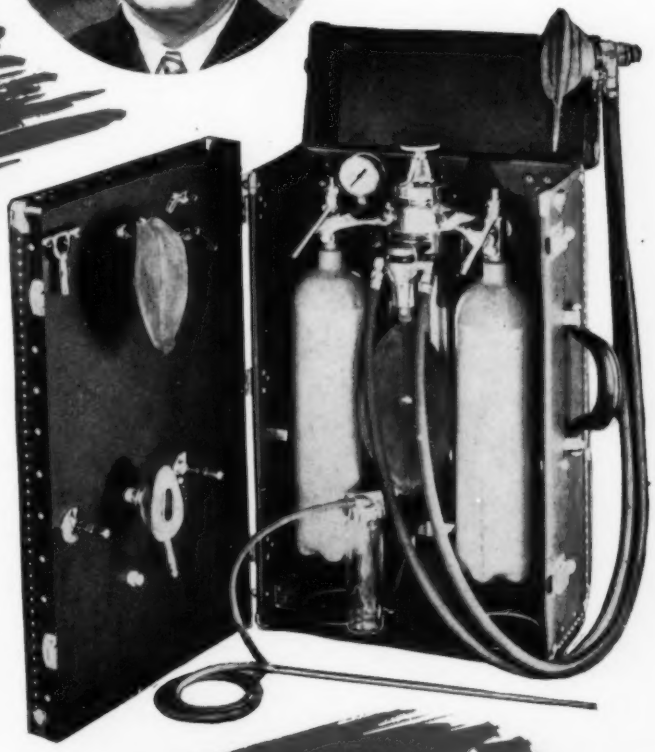
Chief Hennig, Highland Park, Ill., Fire Department members, their trucks and equipment. Foreground: Their E & J Resuscitators.

....OVER 80% SAVED with our E&J portable RESUSCITATORS

says Chief Hennig of the Highland Park, Ill. Fire Department



Because a major function of Fire Department activity is centered in combating the *results* of fire and accidents (all types of asphyxia, particularly carbon monoxide, drowning and electric shock), the advisability of purchasing *the best* equipment cannot be denied. The E & J Portable Resuscitator - Inhalator - Aspirator has proved itself many times as *always ready* for *instant, dependable action.* With the increasing tempo of accidents, the greater responsibility assumed by public service departments throughout the nation calls for *the best equipment* . . . for E & J equipment.

Write to listed address nearest you for complete information or demonstration.

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E&J ...first name in Resuscitators

E & J MANUFACTURING CO.

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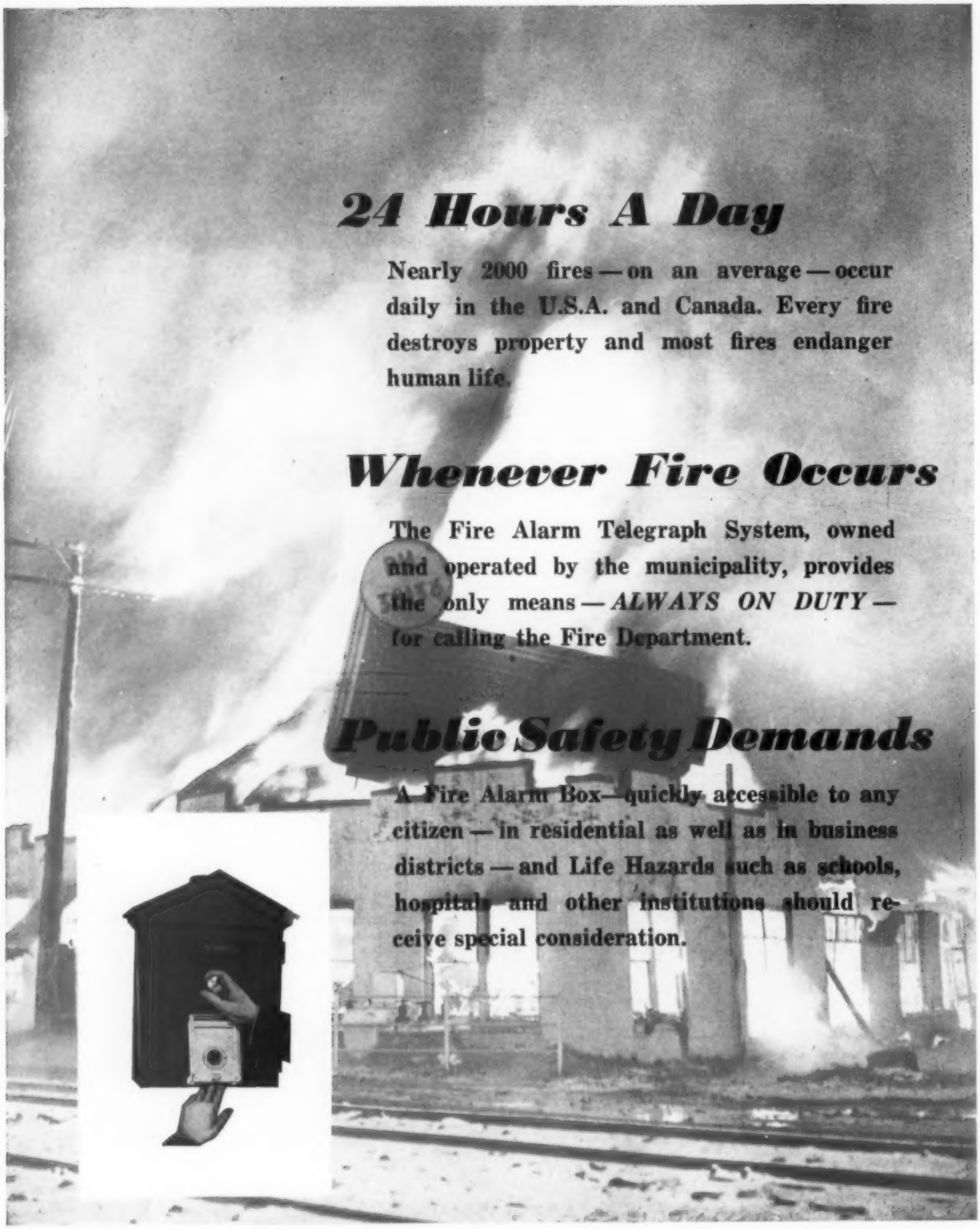

24 Hours A Day
Nearly 2000 fires — on an average — occur daily in the U.S.A. and Canada. Every fire destroys property and most fires endanger human life.
Whenever Fire Occurs
The Fire Alarm Telegraph System, owned and operated by the municipality, provides the only means — ALWAYS ON DUTY — for calling the Fire Department.
Public Safety Demands
A Fire Alarm Box—quickly accessible to any citizen — in residential as well as in business districts — and Life Hazards such as schools, hospitals and other institutions should receive special consideration.

Write for pamphlet — "The Fire Alarm Factor"

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64, MASSACHUSETTS
IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., MONTREAL

FIRE ENGINEERING

JUNE, 1947 VOL. 100, NO. 6

With the Editor

Where Do We Go from Here?

The President's Conference on Fire Prevention was held in Washington May 6, 7 and 8, with over 2,000 representatives of the fire service, insurance, educational and government agencies and others in attendance.

Measured by that attendance and the nationwide publicity given the Conference, the affair was a success. Certainly there has never been a similar gathering of such magnitude held in the interest of reducing the nation's appalling fire waste. Nor, we believe, has there ever been a previous conference, or a program on fire prevention, that had the official blessing of the White House.

All of which is splendid, as far as it goes. The true measure of the success of the Conference and of the President's Program, will be drawn from the dispassionate statistics of life and dollar losses in the months to come.

Whether or not the costly upward trend in our fire waste can be halted, and reversed, will depend not so much upon the extent and elaborateness of any "action program" as upon putting even the simplest plan of fire prevention over. And that will take a lot more than fine words and full conference rooms. To quote Kipling, primarily, it will take "the everlasting cooperation of every bloomin' soul."

The problem cannot be left to the fire service alone, nor to educators or insurance interests. The vital follow-through is to be the task of a Continuing Committee functioning primarily through the facilities offered by the large number of non-governmental, national organizations represented on the Committee of Public Support, one of the six major groups that drew the preliminary plans. This is well and good, but it takes money and organization to keep such a directing body hitting on all twelve, month after month.

That same "big little matter" of the wherewithal enters into most of the other provisions of the Action Program. We're sure the Governors of the forty-eight states will be much more willing to appoint the recommended statewide fire safety committees, composed of appropriate officials, than they will be to provide funds for such committees.

Much the same thing will quite likely happen with local governments, where all municipal budgets are already getting a kicking around. It is rather difficult for us to contemplate that happy Utopia when municipalities accede to the recommendations of the Committee on Fire Fighting Services of the Conference, to wit:

Fire departments should be regarded as fire prevention as well as fire fighting agencies and substantial parts of their budgets be devoted to fire prevention activities, one phase of which should be the educating of the public.

It would be a fine and sensible thing to place all municipal fire prevention as well as fire control under the fire departments and to adjust budgets accordingly. However, right now the fire service is pretty generally more concerned over getting sufficient funds to rehabilitate its present war-weary essential facilities, and bring them into line to meet pressing post-war needs, than it is in seeing the finances that it must have for immediate protection of life and property diverted to any public promotional and educational program, no matter how well conceived and deserving that program may be.

Even without appropriations, the fire service can and will get behind the President's Action Program—as was clearly indicated by the several hundred members of the Service at their informal meeting May 8, during the Conference in Washington.

Conscientious fire officers do not have to be sold on fire prevention. They would much rather not have any fires than have to fight them. But, with potential disaster always lurking, they must not be expected to give so much attention to fire prevention that fire protection will suffer —nor should any nationwide program to reduce the nation's fire waste seriously contemplate a weakening of the fire fighting force through unwarranted diversion of personnel and funds to purely fire prevention activities. Fire department personnel today is critically short in most departments, so short as to preclude the taking on of additional activities on a scale indicated by the program of the President's Conference.

Fred Sheppard

Heat and Fire

By HUGH N. McNAIR

IN considering the relationship between heat and fire we must always bear in mind that there are two dimensions of heat—heat intensity and heat quantity. Heat intensity is the controlling factor in ignition temperatures, that is, the temperature measured in degrees Fahrenheit, or sometimes degrees Centigrade, that must be reached before any given gas in combination with oxygen will ignite. This temperature may vary greatly, depending upon the nature of the gas. Gasoline vapors, for instance, when mixed with the proper proportions of oxygen, will ignite at approximately 500° F., while Benzol vapors require 1000° F.

We say, therefore, that the ignition point of gasoline is 500° F. and the ignition point of Benzol is 1000° F. In other words the initial source of ignition, whether it be flame or spark or heated metal, or other substance, must have reached at least that temperature or intensity. It may be exceedingly small in volume and short in duration, such as an electric spark which would not contain a sufficient quantity of heat to scorch a piece of newspaper, but would nevertheless have enough intensity to ignite a tank car of gasoline. Once ignition has started, the fire itself supplies the necessary heat intensity to continue burning. Heat intensity, therefore, refers primarily to the degree of heat, rather than the quantity of heat.

Heat quantity, on the other hand, is the volume of heat in B.T.U.'s emanating from a given source, and is the controlling factor in relation to fire points. The heat intensity and heat quantity necessary for ignition can, and generally do, emanate from the same source, but there are many exceptions, notably in fires involving low flash materials. The important point is, however, that they are both necessary to the development of fire. Unfortunately, in most combustible materials, particularly solids, so many variables are involved that it is impracticable to express in specific measurements the heat quantity necessary before ignition can occur in any given situation. An understanding, however, of the part that this heat dimension plays in fire, is of tremendous value to fire officers and fire prevention engineers because, inconspicuous and often unnoticed, it lays the foundation for fire. Heat intensity—the spark, the match flame, the heated wire, or whatever it is —can only do its dirty work after heat quantity has set the stage for it.

To fully understand the part that heat quantity plays in ignition, we must go back to the nature of fire itself. Generally speaking, solids or liquids will not burn as such. Only the combustible vapors released from these substances will burn, and then only when mixed with the proper proportions of oxygen and the combination raised to its ignition temperature. Therefore, in order to have fuel, we must have combustible vapors. Any substance, whether liquid or solid, will vaporize when subjected to sufficient heat.

Sometimes it takes only a very little heat, such as in the case of gasoline. Sometimes it takes a considerable quantity of heat, such as in the case of coal. The temperature to which a combustible solid or liquid material must be raised before it will vaporize sufficiently rapidly to sustain combustion (i.e., to supply flammable vapors as fast as they are being burned off) is called fire point or burning point. This is sometimes identical with, but generally a few degrees above, the flash joint, which is the point at which a flash will occur that may or may not result in continuous burning.

As an example, the fire point of gasoline is around —45° F. That means that even at 45 degrees below zero there is enough heat in the atmosphere to vaporize gasoline fast enough to supply the fuel necessary for fire. Therefore, gasoline is almost always at a temperature

Ordinary Fires Need the Oxygen in the Air in Order to Continue Burning. Here a Fire in Container Is Being Extinguished by Cutting Off the Air Supply

above its fire point and consequently will release flammable vapors whenever exposed to the air. This is why it is so dangerous. All it needs is a small spark which might be supplied in a hundred different ways, to cause ignition. Fortunately, there are few common combustible materials that have so low a fire point. Most kerosene, for instance, has a fire point of around 135° F. and consequently is much safer to handle. Fuel oil, which has a fire point of over 150°, is safer still.

Obviously any common combustible materials not subject to spontaneous ignition, that has a fire point above atmospheric temperature, is much less dangerous, as the mere presence of ignition temperature in its vicinity will not in itself start a fire. Before that can happen, heat from some external source must be applied to the material to raise it to its fire point. That is why we are able to strike a match inside a frame building, or store our coal in the cellar that also houses a lighted furnace. The potential fire hazard of an ordinary combustible then can be measured by the quantity of heat necessary to raise it to its fire point. The smaller the quantity needed, the greater the chances of its being encountered, as small quantities of heat are much more readily generated, and much less readily detected.

In the final analysis, the whole principle of fire prevention is based on the proper evaluation of this heat quantity to fire point equation.

As we examine the subject, however, we find that it is quite involved, owing to the many factors that exert an exceedingly broad influence on this relationship. These factors can operate independently, or in combination, and each must be recognized and evaluated in its

Ideal Layout for a Quick Fire. Loosely Piled Materials, Affording Large Surface Area in Proportion to Mass, Assure Rapid Growth of Blaze Once Fire Has Started

Small Spark from Motor, Lodging in Inflammable Dust Which Covers It, May Result in a Large Fire

relation to the others. We know, for instance, that wood must be heated to from 400° to 500°F. before it will distill enough flammable vapors to sustain combustion. That gives us the intensity of heat necessary to bring wood up to its fire point, which is incidentally very close to the intensity of heat necessary to ignite the vapors after they have been distilled out of the wood.

For this reason flash points, fire points and ignition points are usually combined under the general term ignition temperature, or kindling point, when we talk about high flash solids. This measurement, however, does not give us any idea of the *quantity* of heat in B.T.U.'s necessary to raise a given piece of wood to its fire point temperature of 400° to 500°.

Everyone knows that the heat from a single match, although over a thousand degrees F., will not ignite a 2 x 4, or even the leg of an ordinary wooden table. If, however, the table leg were much smaller, say the size of a toothpick, you would get ignition quite readily. So we find that the heat from a match, that could not set fire to an ordinary wooden table, could set fire to a sliver taken off the same table. Now the nature of wood does not change simply because it is separated into smaller pieces. The wood in the sliver is exactly the same as the wood in the table.

Why then will it ignite when it is by itself, and not when it is part of the table? The answer is that a great deal of the heat given off by the match, when applied to a given point on the table, will be carried off by conduction and dissipated throughout the mass adjacent to the point of application. The larger the mass, the more heat it can absorb before a part of it reaches the temperature at which it will distill off flammable vapors in sufficient quantity to sustain combustion; in other words, reaches its fire point.

In the case of the sliver of wood, the mass was small, so it was not able to absorb very much heat before reaching its fire point. It must be remembered also that a small object has a proportionately greater surface area than a large object of the same shape. The little sliver therefore had a much greater surface area in proportion to its mass than had the table, and consequently had access to a greater proportion of oxygen, which would facilitate ignition and cause more rapid and complete combustion once ignition had occurred.

It is apparent, therefore, that the heat quantity necessary to cause vaporization is not only affected by the nature of the material, but also by the mass of the material. A solid log of wood would be very hard to ignite under any circumstances, and then would burn quite slowly. If the wood were in the form of match sticks piled loosely in a great heap, it would ignite readily and burn rapidly. If it were in the form of dust in suspension in the air, it would ignite instantly and burn so rapidly that there would be an explosion. Yet the only difference would be the size or mass of the particles.

To complicate the matter a little more, we have still another factor that is related to mass, and that is shape. Take a pound of wood in the form of a cube or block and try to set fire to it. You will find it will take a considerable quantity of heat before it will ignite. Now take another pound of wood in the form of a thin sheet, and it will ignite much more readily. In the cube there is more mass adjacent to the point of heat application, and consequently the heat is being conducted away much faster than in the case of the thin sheet.

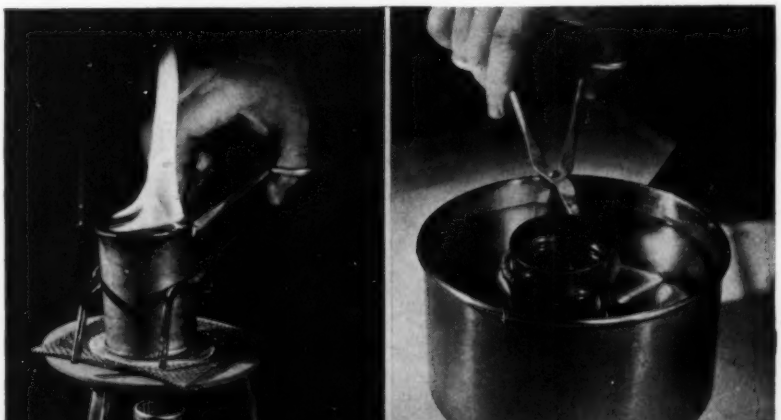
Also the thin sheet has a much greater surface area which, as already explained, is an aid to combustion. An ordinary piece of newspaper will demonstrate this very clearly. Fold one sheet up as nearly as possible in the form of a solid cube and set it on fire; then put a match to an open sheet and compare the results. Here the only variable is that of shape, but if you were to tear the paper up into shreds it would ignite more readily and burn much faster still, for in this case you would have a combination of two factors—shape and mass.

So far, then, we have found three important factors—nature of material, mass of material, and shape of material —all of which have a profound effect on the quantity of heat necessary to effect ignition. Now as we are at the moment omitting any discussion of spontaneous ignition, we are considering only heat that is being transferred from some external source to a combustible material, and heat transfer is to some extent, but not entirely, cumulative. We cannot say, for instance, that it will require a hundred B.T.U.'s to raise a given quantity of wood of a given shape to its fire point, for it would depend greatly on the rate of application of the heat. If we applied it very fast, 100 B.T.U.'s might be sufficient, but if we applied it slowly, it would take a great deal more, for only a portion of the heat absorbed by a solid or liquid is retained.

A considerable amount will be radiated off the surface or carried off by conduction. It's like a man trying to fill a leaky bucket with water. The faster he can pour water in, the less he will lose through leakage before it is filled. If, on the other hand, it is leaking out as fast as he is pouring it in, he will never get his bucket full. Thus we find that not only does the rate of application greatly affect the total quantity of heat necessary, but that there is a definite lower limit below which we cannot go. The transfer of heat from one object to another, moreover, will stop as soon as the two reach the same temperature or heat intensity, and from then on heat transfer will occur only in sufficient quantity to maintain the two in equilibrium.

There are many instances where wood or other combustibles are adjacent to, or in contact with, chimneys, heaters, flues, etc., and the unfortunate part of it is that people think that because they do not burst into flame in an hour or so, that they are perfectly safe. They do not realize that even though it has not been heated to its kindling point, the temperature of the material has been raised, and it may take only a little more heat to cause ignition. Some day that little additional heat may slip in unnoticed, and then you have another fire of "undetermined origin." Even without that additional heat, the con-

(*Continued on page* 384)



Left: How Some Fires Can Be Extinguished Merely by Cooling the Burning Substance Sufficiently, Without Actual Contact with Water, May Be Easily Demonstrated. A Small Container of Paraffin Wax Is Heated Until It Is Hot Enough for the Vapors to Burn. Right: Remove the Container of Burning Wax from the Flame and Lower It Carefully Into a Pan of Water. Although the Water Does Not Touch the Flame, It Cools the Wax. As Soon as the Temperature of the Wax Has Been Lowered Sufficiently, the Flame Will Go Out

How One Town Held Fire Losses to $881 in Eleven Years

Woodsboro, Texas, Volunteer Fire Department Cut Fire Losses Through Consistent Education Against Fire Hazards

By RUEL McDANIEL

WOODSBORO, TEXAS, does not openly claim to have the lowest per capita fire record in the United States. "All we know for sure," declares Fire Chief A. F. Sommers, "is that insurance men and state officials tell us we have the best record in the country. We are a little proud of it."

In 11 years, the incorporated town of Woodsboro has suffered a total fire loss of $881. It has a population (1940 census) of 1426. That is an average of only $80.09 per year and a per capita loss per year of only 56 cents, compared to about $3.37 per capita average for the nation. Naturally Chief Sommers and his 34 volunteer firemen are a little proud of the record.

Education Basis of Program

"The secret of our record, if there is any secret," Chief Sommers explains, between poundings of his hammer upon metal on his anvil in his blacksmith shop which he has operated in Woodsboro for 25 years, "is that we avoid fire losses by stopping fires before they start. We do it through education. We have carried out a consistent program for more than ten years, to make the public acutely conscious of its duty in preventing fires."

The foundation of the program is in the public schools. Fire prevention is a regular school course. Schools devote two periods weekly to it. The fire department not only supplies the material for use in the course but provides speakers for many of the classes.

"Woodsboro kids really want to grow up to be firemen," Chief Sommers muses, "because they're taught the importance of fire fighting and fire prevention from their first year in school."

The courses teach students to prevent fires by the careful use of matches, by keeping rubbish cleared from the yards and alleys and waste and trash from attics and closets in the home. The older boys are cautioned against the careless tossing of burning cigarettes, and substitutions for electric fuses. Young Woodsboro citizens grow up acutely conscious of the danger of fire and the importance of guarding against it.

The fire department constantly develops good material for the department through the organization of a Junior Volunteer Fire Department. Nearly every boy in town aspires to belong to the junior firemen, and those between the ages of 14 and 16 are eligible, providing they take the courses at school seriously and are willing to conform to the regulations of the youngsters' club.

The boys run their own organization, meet weekly and drill seriously, under the direction of the regular fire department. They answer fire alarms, same as the regular firemen, except that they are not allowed to ride the fire trucks.

This objection is overcome, to a degree, through the fire department's giving every school child a ride on the trucks during annual Fire Prevention Week.

When a member of the junior group has attained the age of 18 (17 by consent of parents) and can qualify, he is eligible for membership in the regular department. Obviously the Woodsboro Volunteer Fire Department "raises" most of its recruit firemen, and they are excellent men from the beginning, because they have learned the fundamentals of fire fighting and fire prevention in their own organization and in school.

Woodsboro firemen have done such an excellent job of fire prevention that Woodsboro residents simply don't expect fires any more. This backfired a couple of years ago when the city suffered its worst single fire loss in 11 years.

Chief Sommers was working on the roof of his own home, when he chanced to see smoke pouring from the attic of a home several blocks away. He scampered down and turned in the alarm. He raced to the fire-house, clambered aboard one of the trucks and raced to the scene. Seeing nobody around, he rushed into the house. He startled the housewife there.

"There's nothing to be alarmed about,

Frequent Drills Keep Woodsboro Firemen Alert for the Real Thing

Mrs. Scoggins," the Chief said calmly, "but your house is on fire." It was the first the woman knew of it.

"We were caught with a heavier loss than we should have been," Mr. Sommers apologizes, "because we had to string 1200 feet of hose to reach water." The loss amounted to nearly $400, the heaviest in 11 years. In fact, that loss and another residence on the edge of town, which suffered a loss of around $300, contributed most of the total for the 11 years.

Chief Sommers at His Regular Trade of Blacksmithing. His Trade Helps the Fire Department When Gadgets Must Be Made

Although the fire department has found that the schools represent the greatest and the fundamental opportunity to "sell" its citizens on the importance of fire prevention, it does not stop there. Naturally, a lot of the older citizens never heard about fire prevention when they went to school; so a part of the over-all program is designed to caution the older residents as well.

Frequent posters dot the town, each giving a warning against a specific fire hazard. "Don't —" is the key word. Don't accumulate rags and trash in closets and the attic. Don't throw rubbish in the backyard or the alley. Don't toss away a burning cigarette without stamping it. Each poster features some "don't" which, if obeyed, cuts down fire hazards. Because the children already are thoroughly enthusiastic about fire prevention, they help the department to sell the oldsters. Thus the whole town is acutely "fire prevention conscious".

During Fire Prevention Week the schools hold special fire prevention programs, with the help of members of the fire department, and speakers from the department, or outsiders obtained by the fire department, talk before the various clubs in the town, stressing the value of year-round fire prevention. The low insurance rate resulting from such low losses appeals to business men and the firemen make the most of this appeal.

The enthusiasm engendered by the fire department for fire prevention extends beyond the bounds of the town. About four years ago, when Chief Sommers complained that it was dangerous to take the department's only vehicle outside the city limits to fight fires, farmers asked what a new truck, equipped to serve the rural areas around town, would cost. Mr. Sommers told them he thought they could make out with about $3,000. In a few days a spokesman for a hastily-formed farmers' committee presented the chief with cash and checks totalling $3,500.

He bought a stripped-down vehicle, because the nation was in the midst of a war and the proper body and fixtures were unavailable. So, Mr. Sommers moved the new vehicle into his blacksmith shop and built it from its stripped-down condition into a highly practical fire-fighting machine. It contains a booster with a tank capacity of 306 gallons, and the vehicle has saved farmers serious fire loss many times since its activation. It gave the department two serviceable trucks, both triple combinations.

Chief Sommers, who has served since 1939, finds it important to make a point of having members of the local utilities organizations in the department. He thinks an executive of the gas company, a representative of public utility organization, a practical electrician and a good plumber should be members of the department at all times. They not only are aware of fire hazards but can be of real service in teaching others the importance of guarding against fires and of course they make valuable technical men when a fire is being fought.

The firemen meet consistently every Monday night, for drill and study. Chief Sommers recognizes the value of providing good speakers, some entertainment and a progressive course of study, to maintain consistent interest in the meetings. Most important than any of these, however, he believes, is the personal pride taken by every member, in the excellent record of the department.

"No member wants it to be said that his negligence at any time, even indirectly through failure to attend meetings, contributed to a greater fire loss," Chief Sommers stresses.

Many Cities Have Obsolete Apparatus

Municipal fire protection throughout the United States has deteriorated during the past few years, the Committee on Fire Prevention and Engineering Standards of the National Board of Fire Underwriters has stated in a report presented recently.

"Fire departments were not able to purchase new apparatus or equipment and the replacement of fire apparatus is a problem which is facing most city authorities. The long period of depression, followed by the war years, has left many cities with obsolete ladder trucks and pumpers," the report said.

"Another factor is the general tendency throughout the country to increase the off-duty time of firemen. This change of operating conditions, in many cases to a 48-hour week, would not be objectionable, and in fact would be advantageous as providing a larger total force at time of a catastrophe, were it not that in many cases sufficient men have not been added to maintain even a reasonable manning of individual companies.

"In fact, in many cases no men have been added, with the result that individual company strength is such as to permit use of only such hose lines as are of value on fires in their early stage," the engineering report stated.

Chief Sommers at the Wheel of the New Fire Truck Farmers Bought

Training of firemen is also inadequate, the committee reported, stating there has not been time, nor have funds been provided to utilize fire-fighting training methods developed by the armed forces during the war, "although there is little doubt that some practical innovations in training methods devised by the Army and Navy will eventually be employed by fire departments."

Water supplies of municipalities show the least retrogression, since various extensions and improvements were authorized during the war on account of necessary industrial and housing developments. Nevertheless, the committee stated, many planned improvements were delayed.

The committee's findings on municipal fire protection were based on the National Board's inspections of fire-fighting facilities and structural conditions in cities throughout the nation.

The committee stated that the field of fire protection is "constantly becoming more complicated, owing to advancing industrial processes and methods, and by changes in the economic and social phases of our highly developed civilization. Industrial and chemical processes brought into being during the war, increased responsibilities of public officials in the realm of safety to the public, movement of population, the inflated price scale, and even shortened hours of the average working man, all give rise to problems with which we are called upon to deal."

Radio Marches On

It is reported that fire departments in eleven cities installed radio equipment in 1946. They were: Lansing, Michigan; Massillon, Ohio; Madison, Wisconsin; Keokuk, Iowa; Monroe, Louisiana; Long Beach, California; Fort Worth, Texas; Cleveland Heights, Ohio; Highland Park, Illinois; Hobbs, New Mexico, and Birmingham, Alabama. In addition many municipalities broadened their use of fire department radio.

Value of Building Inspections to Small Town Fire Department

By WALTER W. STEPHEN
Chief Fire Dept., Monsanto Chemical Co., Anniston, Alabama

THE practice of correct methods of combatting fires, as they are defined and taught by men who are the masters of the fire fighting profession, may, in the operation of a small town or village fire department, be applied just as well and profitably as they are in the elaborate division of fire protection in a large city.

Care of apparatus, response to alarms, sizing up situations, laying and operating hose lines, ventilating, salvaging and overhauling are phases of fire fighting that can have a place in the performance of the smallest fire brigade and will, many times, mean the difference between success and failure.

This has been the observation of the writer during forty years of fighting fires in small communities. The chief in a village has fewer and smaller fires, as a rule, but he has less to use in stopping them and little or no reserve facilities.

Many years ago, during a session of a convention when our organization was known as the International Association of Fire Engineers, there was, during a round table discussion, an argument between a chief from a large city and one from a small town.

As an overwhelming rebuttal the man from the large municipality thundered: "Sir, what would you do if you had a fire on the top floor of a twenty story building?"

"I would," replied his opponent in the debate, "get all my available apparatus together. I would then wait until the building burned down to the third floor, and then I would put it out!"

The applause from the convention audience rocked the building, for he had given the correct answer that he would take all the facilities at his command and use them in the most efficient manner possible.

It is also true that a knowledge of buildings in which fires may occur, their entrances, halls, rooms, vertical openings, fire walls, etc., and the hazards they contain may be of inestimable value to a small town fire officer, and that this knowledge may be obtained in just one way, which is by going through them and looking at them until you can get in and out of them in the dark.

As a discussion of this, and its application in fire extinguishment (it is not intended here to go into the extensive subject of fire prevention), the following examples of thing that actually happened at fires are related for whatever value they may have, or whatever lessons that may be gotten from them. These fires would not have been problems to a city chief, but were serious affairs where but one or two pieces of apparatus were available.

Case One: Small town department was called at night to a fire on the first floor of a brick and joist mercantile building, which had been unoccupied for several months. Fire was burning in a large pile of old furniture and other waste materials at the center of this structure. It was learned later that some youngsters had entered that day through a rear window and had been secretly smoking here.

The officer in charge, upon arriving, found that a line of hose had been laid and a stream was being operated into the building from a point a few feet inside the front door and that it was getting the fire under control. An open window in the rear had furnished some ventilation and the blaze could be plainly seen.

This officer, being of the opinion that the pipemen were slow in getting in into the building and finishing the fire, told them to follow him and he would show them how they should go into such a place.

He proceeded to do this by going ahead of them into the smoke, and falling into the basement through an opening in the floor, a large section of which had been recently removed after it was found that termites had damaged it. He had not inspected this building for several months and did not know that there had been any change in it, and that an interruption of rebuilding activity had left it in its present state.

Case Two: Fire had involved entire roof and loft of a large two-story brick and joist residence and was getting down into second floor. Small town department was fighting it with two rather weak hydrant streams.

The officer of this small town department who had charge of fire was fighting it himself instead of watching its progress and directing the operation of the two companies present as he should have been doing.

The house had a tall and heavy chimney built in an offset position and supported by roof timbers, which he should have known, but did not.

One company was in the first floor, trying to make the inside stairway. The other was on the roof of the porch, trying to get into the second floor through a window. The officer in charge went up on the roof of the porch and asked the captain of the company there why their line was not advanced into the window. The captain replied that he and his men were afraid to go into it, as the whole place looked like it was about to fall down.

The young officer said "Give it to me," and took the controlling nozzle and went into the window with it. A minute later the big chimney fell, carrying down the floor on which he was standing. He held on to the hose line and was pulled back up to and out of the window. Several members of the company working on the first floor were injured by falling bricks and timbers.

Both of the fires described above, which occurred some years ago, were outstanding examples of the officer in charge being uninformed about the building that was on fire and using bad judgment about entering it, and each came near being the last fire that the writer ever attended, and each contained an unforgettable lesson.

Case Three: Fire in second floor of brick and joist mercantile building had charged this floor very heavily with smoke, and two hydrant lines available could not be advanced up into this floor. Small town department put up a fifty-foot extension ladder (which was the only one they had) to the roof.

Due to a network of wires, there was only one place it could be raised and only one way it could be put up, which was a "beam" raise. This was quickly and correctly done. A ventilating party removed a roof scuttle, and in a short while it was possible for the pipemen to get up into the second floor and control the fire.

This was a case where foresight and knowledge of the building went very far in handling a fire. This small department, during drills, had examined every downtown building, and had practiced putting up their big ladder on this very one.

Case Four: Fire in second floor of a brick and joist mercantile building could not be reached from interior stairway on account of smoke, and could not be reached from windows from front and rear because packing boxes were piled in front of them. Two weak hydrant streams were available and it was feared that the fire was so far advanced that if the building was vented these streams could not control the fire. Also it appeared that the fire might vent itself in a short time and the whole floor would then light off.

Building was more than one hundred years old, and made of soft brick. Officer in charge had one line of hose taken to roof of adjoining one-story structure. A small hole was cut through the brick wall of the fire building (which had no side windows) and the stream (with the other one shut off to increase the amount of water available for this one) was operated through hole in wall at a point where it was estimated that the hottest part of the blaze existed. In a few minutes it was evident that this was having effect, and it was soon possible to ventilate the building, get the lines into the second floor, and finish the fire.

In this case a very thorough knowledge of the building, its interior arrangement, and of even the kind of bricks of which it was made, averted a bad loss.

(Continued on page 386)

EXHAUST-WATER SPRAY SYSTEM DESIGNED TO PROTECT WELLWAYS

Sprinklers and Exhaust Fans with Ducts, Check Spread of Smoke and Fire

FOR an elevator hoistway, complete enclosure by fire resistive walls has been generally considered adequate protection, if the top of the hoistway is properly vented, and if the hoistway doors are solid and fire resistant. For moving stairways, however, total enclosure is not a satisfactory solution. The doors to such enclosures must be the center-opening double-swing type and must remain open to permit the uninterrupted flow of passengers all the time the moving stairway is in operation. In case of fire these doors may remain open for a considerable period of time after the fire starts before their fusible links melt and allow them to close. Even when closed such doors are not smoke-tight. Furthermore, complete enclosure detracts from the usefulness of moving stairways and reduces their efficiency as a means for transporting large numbers of people.

The Otis Elevator Company and the Westinghouse Electric Corporation enlisted the aid of the Grinnell Company, Inc., designers and manufacturers of sprinkler protection, and embarked upon a program of experimentation to find a means of effectively sealing wellways and stair wells against the spread of fire and the passage of toxic gases.

It is believed that a satisfactory solution to the problem has been found. This solution has been tested many times in the test building which was erected especially for these experiments at the Proving Ground of the Grinnell Fire Fighting Laboratories in Cranston, R. I., and has been found adequate protection against severe conditions.

It is the combination of an exhaust system with a water spray curtain that the cooperating companies consider a satisfactory solution to the problem of protecting stairwells against the passage of fire gases. This "Exhaust-Water Spray Protective System", as the arrangement might be called, comprises an exhaust system, with suitable dampers, ducts and flues, an intake in the roof through which fresh air can enter the building as the exhaust system draws out air and gases from the wellway nearest the fire, and a set of open sprinklers that curtain the wellway with water whenever they are brought into action. A set of high velocity sprinkler heads directed down the wellway and arranged to deluge the stairway with water, can be provided as a "reserve" protection where required.

The functions of the various components of this system are as follows. The ducts and exhaust fan remove fire gases which may reach or tend to accumulate near the wellway, and create a negative pressure area in the vicinity. The air intake provides a source from which fresh air can be drawn through the wellway from above the floor on which the fire is located, thereby reversing the normal flow of air through these openings and opposing any tendency for the wellways to act like chimneys. The curtain of water has a cooling effect on all gases which pass through it and tends to prevent convection currents from flowing upwards through the opening.

Only extreme conditions can bring the high-velocity water spray heads into action, but their use is recommended for installations where there is a possibility of a flash-fire originating near enough to the wellway to produce intense heat in the opening very suddenly.

Heart of the New Exhaust-Water Spray Protective System Is Shown Here. Technician Is Adjusting the Openings in the Duct Through Which Gases and Fumes Are Sucked Out of the Building by an Exhaust Fan. Surrounding the Ducts Can Be Seen the Sprinklers Which, When a Fire Starts, Set Up a Curtain of Water That Cools the Heated Air and Helps to Check Passage of Smoke Into the Stair Opening and to Upper Floors

Effectiveness of the Exhaust-Water Spray Protective System Is Demonstrated in This Picture. Smoke and Hot Gases from the Fires on the First Floor of a Two-Story Test Building Do Not Enter the Stair Opening and Travel Up to the Second Floor. Instead They Are Cooled by a Curtain of Water and Drawn Into Collection Ducts and Out of the Building by an Exhaust Fan

Binghamton Starts Home Inspections

Chief William D. Thomas of the Binghamton, N. Y. Bureau of Fire, has announced that the fire department will inaugurate its first inspection of private dwellings in Binghamton, this spring.

Plans were laid for the inspections at a recent meeting of all fire department officers, including the Fire Marshal and Training Instructor. The city has been mapped into districts and the inspector tours laid out for greatest efficiency. Districts will be covered by the various companies in each district.

In his last annual report, Chief Thomas reported he had re-arranged the system for inspection by company members and in doing so had increased the number of inspections from the previous seventy-five a month to about 800 a month. These inspections are exclusive of those made by the Fire Prevention Bureau.

Chief Thomas said: "I believe that this amount of inspection work and the knowledge gained by the personnel in knowing the general layout, construction, exits, etc., of the various buildings, will eventually cut down the number of fires and this in turn will help lower the fire loss or at least help materially to hold it down." The slogan adopted for the new inspection program is "Help a fireman to know your home and he will help you prevent disastrous fires."

Signal Men to Meet

About 600 municipal signal engineers and suppliers of equipment for this field will gather at Grand Rapids, Mich., September 29-30, October 1-2, 1947, for the 52nd Annual Meeting of the International Municipal Signal Association, Inc.

Headquarters will be at Grand Rapid's Pantlind Hotel, but all sessions of the convention, as well as the manufacturers exhibits, will be at the municipal auditorium, just across the street from the Pantlind.

The program will cover all branches of municipal signaling work: fire alarm, police signaling, traffic signals, police radio, fire radio, and other communication and signaling work. One day will be devoted to each major subject with leading authorities delivering papers and members of the association taking part in the panel discussions.

Entertainment features will be provided for each evening after the close of business and technical sessions.

N. B. F. U. LISTS PRECAUTIONS FOR HANDLING AMMONIUM NITRATE

Suggested Methods of Fire Fighting Also Included in Report

FOURTEEN precautions that should be observed in handling and transporting ammonium nitrate are outlined in a point report on the Texas City disaster recently by the Fire Prevention Bureau of Texas and the National Board of Fire Underwriters.

The report points out that the War Department Ordnance Safety Manual classifies ammonium nitrate as an explosive when it is stored with other combustibles in an explosive area. Smokeless powder regulations apply to ammonium nitrate.

"Proper labelling of containers is of utmost importance," says the report. "The label should be red in color with the words 'Hazardous Chemicals'—'Ammonium Nitrate'—'Handle With Care' prominently displayed with any other notations in small type, preferably of some other color."

The report points out that ammonium nitrate should never be stored in contact with carbonaceous materials or with cadmium, zinc, copper, tin or lead. It recommends also that it be kept apart from combustible commodities like sulphur, flour, sugar, compressed cotton and charcoal.

The fourteen recommendations of the two fire prevention organizations are:

1. Material should be stored only in masonry or fireproof sprinklered buildings.

2. Storage should preferably be in separate fire divisions from highly combustible commodities or well segregated.

3. Piles of ammonium nitrate in paper bags in storage should not exceed 10 bags high, six bags wide and 30 bags long with 3 foot separation between piles and handling aisles of 10 feet every 100 feet.

4. Spilled material from broken bags must be re-sacked immediately.

Handling

5. Ship's holds or boxcars must be thoroughly clean before loading operations are begun.

6. Spilled material in the hold, cars or on dock and discarded sacks must be removed immediately.

7. Proper dunnage and sweat-boards must be used in ship's hold and boxcars to prevent friction and to allow for circulating of air.

8. Smoking or the use of open lights *must be strictly prohibited* at any time.

9. Other cargo must not be placed in the same hold with ammonium nitrate.

10. Keep material clear of all steam lines and wiring.

11. Pending the outcome of tests now in progress, it is suggested that steam *not* be used for fire fighting in compartments containing ammonium nitrate.

12. Any ship with ammonium nitrate entering a port must notify the port facility who in turn should notify the chief of the fire department immediately.

13. Fire departments combatting ammonium nitrate fires should use only water in large quantities (applied gently so as not to scatter the material) as an extinguishing agent and all personnel entering the fire area must wear masks approved for use in such locations. Fire in ammonium nitrate usually generates large quantities of oxides-of-nitrogen gases which are extremely toxic.

14. Cities in which large industrial operations are present or which are in areas subject to hurricanes, earthquakes, tornadoes and other like disturbances should have a well preconceived and organized Disaster Plan to include all relief, law enforcement, fire fighting, military and naval agencies.

The report points out that the Department of Agriculture does not consider ammonium nitrate as explosive when it is stored in wooden containers or paper bags apart from other explosives. Addition of organic substances to prevent caking or cementing may act like a fuse, the report points out, and increase the possibilities of spontaneous combustion. The addition of other substances like super-phosphate and ammonium sulfate may act in the same way.

"Ammonium nitrate usually cannot be detonated by heat or friction," adds the report, "and it is comparatively insensitive."

"It may be exploded under favorable conditions by severe mechanical shock or by sufficiently heavy initation of an intermediate explosive agent. Fertilizer piles containing this material should not be blasted. A shock may mechanically set up a chain of events which will result in the detonation of the entire mass of material."

The explosive factors of ammonium nitrate are affected by temperatures, crystal structure and impurities or extraneous matter. Numerous striking facts are reported in the illustrated 48-page printed booklet which is based on the data collected at Texas City by Dr. M. M. Braidech, Director of Research of the National Board, and Engineers Hugh V. Keepers and H. H. Davis of the Texas Bureau.

The first explosion was so violent that metal drill stems 30 feet long and weighing 2700 pounds were hurled nearly 2½ miles. Plate glass was reported broken 25 miles away. A wave 15 feet high, created by the explosion, surged over the land from the bay.

The loss of property, excluding marine which was not ascertainable, is estimated at $35,000,000 to $40,000,000, including industrial property losses of more than $28,000,000; dwelling houses, $2,000,000; stores and merchandise, $1,000,000; automobiles, $750,000; and city and school property, $1,000,000.

Novel Window Display by Fire Department

During the week of April 13, the Springfield, Mo., Fire Department placed a display in a window on one of the leading department stores in the city. It consisted of a large collection of fire pictures together with messages on fire prevention, and attracted considerable interest. The display is illustrated above. Chief John W. Smyth is head of the Springfield Department.

Des Moines Adds Amplifiers

The Des Moines Fire Department has added four portable, battery-operated power amplifiers to its emergency equipment for use of chief officers. According to Fire Chief Charles L. Slade, the equipment serves a very definite need, not the least of which is in getting instructions to persons trapped in burning buildings.

INTERNATIONAL CONFERENCE PLANS PRACTICALLY COMPLETE

New York City and its Fire Department Will Give IAFC its Greatest Conference

THE 74th Conference of the International Association of Fire Chiefs, to be held in New York City on August 19, 20, 21 and 22, will be outstanding in every way.

Preliminary plans include business, entertainment and social activities that will keep the anticipated 2,000 to 3,000 visitors occupied as only could be expected in a city the size of New York with its almost endless attractions. For the fire officer it will be enough just to study first-hand the world's greatest fire department, which will be host to the Association members.

International and Eastern Conferences to Meet

Adding to the importance of the occasion will be the coincidental convention of the Eastern Association of Fire Chiefs which is scheduled for Monday, August 18, at the Hotel Pennsylvania, New York City. President William Wandras, Chief of the Kearney, N. J., Fire Department, estimates an attendance of over 500 chiefs at the Eastern conference, a large number of whom will remain over to attend the International Convention, which opens on Tuesday the 19th. Although the Eastern meetings will occupy only one day, the program being prepared for its members is said to be outstanding in every detail.

Truly International

In many ways the 74th Conference will be international—it being the first time in years that representatives of foreign fire departments will convene with their American brother officers.

Invitations have been sent to heads of fire service in fifty countries, urging their attendance, and already a number have signified their intention of being present. Details of this phase of the Conference are in the hands of the Hon. Frank J. Quayle, Fire Commissioner and Chairman Ex-Officio, and Frank Murphy, Chief of Staff and Operations, who is Co-Chairman with General Chairman Hon. James J. Moran, 1st Deputy Fire Commissioner. Chairman of the General Conference Committee is John J. T. Waldron, Deputy Chief of Department.

Visitors from out of the country will be given special honors and the program of the Conference is being shaped to develop the international phase and the universality of the brotherhood of firemen, which knows no boundary.

The theme of internationalism will be carried out in the opening ceremonies which will be on a scale never before witnessed by I.A.F.C. delegates.

Business—and Entertainment

Although it is too early to announce the business program, it is understood that it will include outstanding speakers in the field of the fire service both here and abroad. There will be panel discussions of topics of universal and timely interest.

As may be expected, visitors will be afforded entertainment on a lavish scale. This will include a boat ride on the North and East Rivers and down the Bay, during which visitors will have a view of the world's busiest harbor. Units of the city's great fleet of ten fireboats will salute the guests in a series of demonstrations. The boat ride will be reserved exclusively for guests of the Conference.

In addition to the boat ride there will be sightseeing trips and, it is expected, visits to the N. Y. Fire Department Shops, the newest and largest in the world.

The official banquet will be held at the Pennsylvania Hotel, in the largest banquet room available to the Conference. This will be one of the memorable events of the program.

Manufacturers' Exhibits

As in the past, leading manufacturers of fire apparatus and equipment will have displays. This feature of the Conference will be staged in the large rooms adjoining the meeting room in the Hotel Pennsylvania. Chairman of the Exhibit Committee is Fire Chief Rudolph Swanson of Jamestown, N. Y.

Fire Bell Club Cooperation

Assisting the New York Fire Department, as host to the Convention, will be the Fire Bell Club, the city's famous "buff's" club. The Club's headquarters in the heart of the Convention area, on West 33rd Street, will be "open house" for delegates, and members of the Club will staff the N.Y.F.D. convention Information Center at the Hotel Pennsylvania where, it is expected, a complete fire alarm watch service will be maintained to keep persons informed of the operations of the fire department.

"The Midnight Alarm"

A high point of the Conference will be the Midnight Alarm Show, to be staged by the members of the New York Fire Department at Madison Square Garden on Aug. 18, 19 and 20, with three evening and two matinee performances.

Proceeds from the sale of tickets for the five performances will go to the New York Fire Department Welfare Fund. It is planned to endow additional beds in hospitals for firemen out of the Fund.

The Midnight Alarm Show will be similar to the original presentation of that name which received wide publicity some years ago. The performance provides several hours of thrills, fun and music and takes the audience back to the 'gas light' days, with musical numbers from the Floradora Sextette and the Sidewalks of New York. It climaxes with a fire in a full-scale four-story tenement, known as "Cobweb Hall," at which the members of the Fire Department rescue the panicked occupants and extinguish the blaze in gallant fashion. Following this, practically the entire class of probationary firemen will give a thrilling exhibition. The full assignment of apparatus responding to the alarm for the fire in "Cobweb Hall" will include the very latest types of pumpers, ladder trucks and other units.

Registrants at the Convention will each receive a ticket for a seat at the August 20 evening performance of this Show. Additional tickets will be on sale at prices ranging from $2.40, general admission, to $5.00 for selected reserved seats, and $12.00 for box seats. Reservations for tickets may be made with check or money order made out to Frank J. Quayle, Fire Commissioner, care Room 1122 Municipal Building, New York City.

Production of the elaborate Show is in the hands of special Committees representing every branch of the fire department and members of the Fire Bell Club. The Show is being widely advertised and it is expected to be a 'sell out'.

Hotel Reservations

To accommodate the visitors, special arrangements have been made with what is known as the "Penn Group" of Manhattan hotels. These include the Pennsylvania, which will be Convention headquarters the New Yorker, Governor Clinton, McAlpin and the Martinique. Rooms are assured all visitors who make reservations in advance. All hotels in this group are within two blocks of the headquarters and provide first class accommodations at no advance in rates for the Convention.

The Hotel Committee is headed by Winford Beebe, Acting Battalion Chief, Chairman, and includes Frank W. Kridel, Hon. Deputy Chief, and President of the Hotel Martinique Co-Chairman; Edward L. Buckley, General Manager, Hotel Governor Clinton; F. Burton Fisher, General Manager, Hotel McAlpin; Frank L. Andrews, President, Hotel New Yorker; and James H. McCabe, General Manager Hotel Pennsylvania.

Hotel reservations or rates and particulars may be secured through Acting Battalion Chief Beebe, Fire Department Headquarters, Municipal Building, New York City. Early reservations are urged.

Gas Works Fire at Harrison

The Harrison, N. J., Fire Department, under Chief Andrew T. Callahan, had a tenacious fire on its hands recently when the Public Service Company's huge gas works at Harrison became involved.

Fire started in a seven-story structure in which oil was applied to coke before the coke was charged into the gas producing furnaces. The oil supply overflowed and became ignited. Before the fire was extinguished, it had damaged a 600-foot conveyor shed, the seven-story structure and had involved the monitor roof of a 200-foot gas furnace building.

After a hard fight, the Department was able to check the fire at all points. The plant was out of service but a few hours.

PURDUE'S THIRD ARSON SCHOOL HAS NATIONWIDE ATTENDANCE

Nearly Two Hundred Specialists from Twenty-Four States Take Comprehensive Course

A Staff Report

APPROXIMATELY 190 men from twenty-four states, the District of Columbia and four Canadian Provinces attended the Third Annual Training Course in Arson Investigation and Detection at Purdue University, Lafayette, Indiana, April 22 to 25 inclusive.

The Course, the only one of its kind devoted entirely to the specialized study and discussion of arson prevention and control, was conducted by the Indiana Fire Service Training Schools and the Public Safety Institute of Purdue University in cooperation with local, state and national organizations concerned with the problems of incendiary fires. Professor J. L. Lingo, Director Public Safety Institute of Purdue was General Chairman. He was assisted by Shelby W. Gallien, Assistant Director; Wayne M. Timmons, Field Representative and James P. Hawkins, Technical Extension Division of the University and other members of the staff.

As in previous courses, accommodations were provided for the enrollees in the Purdue Memorial Union and other University buildings.

On April 22, following registration of the students, Dr. Frederick L. Hovde, President of Purdue University, addressed the enrollees on "Education for Conservation." He was followed by Horace McMullen, Chief Special Agent, National Board of Fire Underwriters, Chicago, whose subject was "Arson—Your Problem and Mine." The morning forum covered the topic: "Who's Responsibility is Arson," with Carter Bowser, State Fire Marshal of Indiana as Chairman. Participating in the discussion were Robert F. Hamm, Director of Firemen Training, Indiana Inspection Bureau; Morris J. Carter, Chief of Police, Anderson, Ind.; and Edward F. Meeker, Detective-Lieutenant, Toledo Police Department. Fire Chief Sidney Ulrich of Peoria and others joined in the discussion. Owing to illness, Emmett Cox, Field Officer, Western Actuarial Bureau, Chicago, and Lee Baker, Fire Marshal of Arkansas, were unable to be present.

The afternoon and evening sessions were given over to "Fundamentals of Effective Arson Investigation" with Roderick K. Goeriz, Detective-Inspector, Arson Squad, Detroit, as Chairman, with the following speakers and topics: "Basic Techniques of Investigation," Don L. Kooken, acting Director, Institute of Criminal Law Administration, Indiana University; "How Fires Start," Theodore Peters, Captain, Plant Protection Department, Delco Remy; "Why and How People Set Fires," Dr. Richard C. Steinmetz, Chief Special Agent, Mutual Investigation Bureau, Chicago; and "Practical Methods of Instruction" by Francis Hartman, Assistant Director, Indiana Fire Service Training Schools, Purdue. Following an evening address by Horace R. Smith, Professor of Applied Sociology of Purdue, motion pictures were shown.

The subject of "Fundamentals of Arson Investigation" was carried over to the Wednesday meetings, with E. A. Wakefield, Assistant General Manager, Fire Underwriters Investigation Bureau of Canada, Montreal, as Chairman.

The topic "Recognizing, Collecting and Preserving Physical Evidence" was handled by William E. Kirwan, Director, Scientific Laboratory, New York State Police. Mr. Kirwan exhibited a number of "booby traps" used to set fires.

Following a tour of the campus, the afternoon session was opened by L. H. Harber, Special Agent, National Board of Fire Underwriters, Memphis, Tenn., substituting for Mr. Joseph Gillece, New York Special Agent of the Board who was taken suddenly ill, and he discussed "Locating and Questioning Witnesses." Still and motion pictures of fire scenes were shown in the evening.

Third Annual Arson School, Purdue University

Morning sessions on April 24 were devoted to "What the Technician Can Do to Aid the Investigator." with Lieutenant Robert Borkenstein, Chief Technician, Indiana State Police, Chairman. The subject of "Photographic Evidence" was handled by Charles C. Scott, Attorney-at-Law, Kansas City, Mo. Leonarde Keeler, Director, Leonarde Keeler, Inc., Personnel Consultants, Chicago, discussed the "Lie Detector and its Use."

In the afternoon session, Dan Kovach, Special Investigator, Chicago, spoke on the "Use of Listening Devices and Sound Recorders" and William J. Davis, Assistant Manager, Automobile Information and Protective Bureau, Chicago, told about "Automobiles and Arsonists."

The balance of the afternoon period was devoted to "The Juvenile Arsonist," the entire subject being handled by a panel of speakers, with George Clough, Fire Marshal, Nassau County , as Chairman. Participants in the panel discussions were: Chief Roi B. Woolley, Assistant Editor, FIRE ENGINEERING; Charles

(*Continued on page 390*)

Listening in on a Sound Detector-Amplifier at the Purdue Arson School Are (Left to Right) Roderick K. Goeriz; Horace McMullen; Professor J. L. Lingo, in Charge of School; E. A. Wakefield, William J. Davis and R. C. Steinmetz

Juvenile Arson Half of Total

A 22 per cent increase in arson investigations, with juveniles accounting for almost half of the persons arrested because of incendiary fires, was reported by the National Board of Fire Underwriters in the annual report of its Committee on Incendiarism and Arson.

On the other hand, the Board's investigations developed few fires set for profit during the fiscal year ended April 30, 1947, in comparison with the large number of fires set by juveniles and persons mentally irresponsible.

The Committee on Incendiarism and Arson stated, however, that if there is a change for the worse in the American economic situation, the work of the Arson Department will be materially increased due to the possibility of incendiary fires set for profit.

During the fiscal year, the National Board investigated 2,342 fires of suspicious origin, 424 more than during the preceding year. The number of arrests made in the year just ended was 731, compared with 631 the year before, an increase of 21 per cent. Convictions totaled 494 compared with 359 the year before, an increase of 37 per cent. Acquittals totaled 35, just one more than the preceding year.

Wiring Cause of Ericsson Fire

The $500,000 fire which swept the liner Ericsson March 7 and forced her out of service was attributed to the electrical system, according to a report from United States Coast Guard headquarters.

The Coast Guard investigation failed to determine the exact cause of the fire, but the statement says "there was a good probability that the fire was caused by a breakdown in the electrical system," basing its opinion on testimony of crew members and the New York Fire Department and "in the light of past experience in fire on vessels of similar construction." Possible incendiarism was discounted and no individuals were held responsible or negligent.

A void space over the ship's forward dormitory containing conduits, hot air vents and electrical wiring was listed in the report as the fire's probable source.

Built abroad, the 16,552-ton former Swedish liner (Kungsholm) was permitted to operate under a waiver of American safety standards issued by the Coast Guard so that she could help clear the backlog of passengers on both sides of the Atlantic. At Washington, the Coast Guard recommended in May that its power to grant such waivers be discontinued March 31, 1948, except for ships for which a replacement is being built.

Compressor Station Blast

An explosion, followed by fire, destroyed much of the Cities Service Compressor station outside of Blackwell, Oklahoma, resulting in the death of three men and giving the Blackwell Fire Department, under command of Fire Chief George E. Gebelein, a strenuous job before it was controlled.

According to Chief Gebelein's report to FIRE ENGINEERING, the cause of the trouble is attributed to the giving away of a header line in the five-unit plant of the Company, one of the key stations of the Cities Service Company, with bypass to different communities.

The plant, located about one and one-half miles from Blackwell, included in its units an engine and compressor station; office building; a structure housing auxiliary engine and boiler; superintendent's house; cooling tower; garage and garage machine shop. These may all be identified in the accompanying illustrations.

According to Chief Gebelein, he was about one mile south and a half-mile east, of the plant, heading west by automobile, when it "kicked off." To him the explosion took the shape of a huge transparent balloon, out of the center of which shot a whitish flame. He likened it to the atomic bomb explosion.

Chief Gebelein drove his car to as near the scene as he dared risk it, with his wife and friends aboard, and hurried on foot the balance of the distance to the scene. There was a great gash in the ground where the header line had been; the compressor plant was involved in fire, as was the office and fire threatened the cooling tower boiler building and other units. Grass was burning all around the nineteen-acre plant and before the department, which responded promptly, could control it, the fire jumped the road, setting off pastures and high line poles.

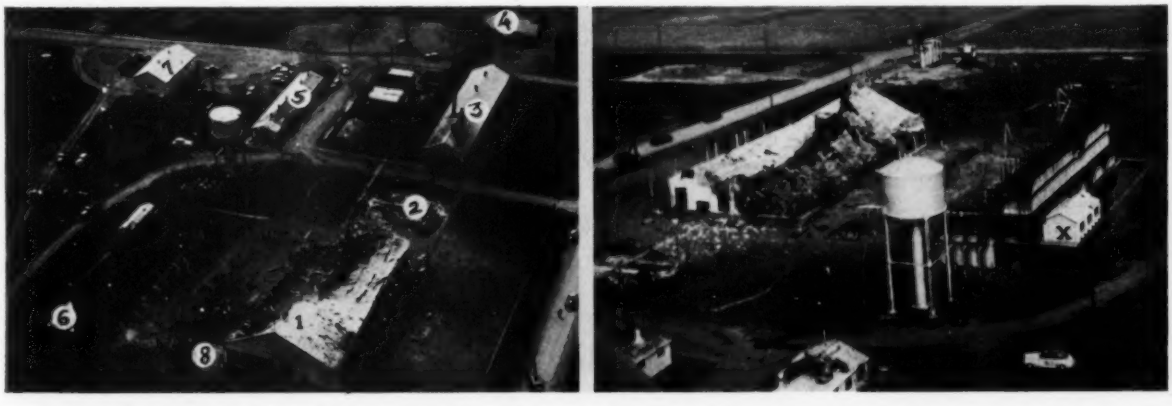
The heat and flames were terrific, Chief Gebelein reported, and his men were unable to get close to the structures involved for about an hour. Plant employees warned the firemen that they "were standing over dynamite."

Lack of adequate water supply further handicapped firefighters. Practically all they could do was to wait until the terrific gas pressure was gradually cut down and off, which put greater pressure on the large pipe lines.

Where the Leader Line Gave Way. Part of This Line Passed Ruins of Office, Which Is Marked "2" on Another Picture Herewith

Water is supplied by a three-inch pipe line running from the city limits. There are four hydrants but the supply was insufficient to provide effective fire streams, although firemen did some effective work at the north end of the garage. Later the water in the basin of the cooling tower was utilized, Engine 3 being located at that point and operating under pressure of as high as 200 PSI at the pump. This effectively killed the fire in and near the cooling tower.

The property loss is undetermined. One man lost his life in the blast, and two died the next day from severe burns.



Left: Photograph Shows: 1. Engine and Compressor. 2. Foundation of Office. 3. Auxiliary Engine and Boiler Building. 4. Superintendent's House. 5. Garage (Fire Was at North End Near Water Tower). 6. Cooling Tower. 7. Garage Machine Shop. 8. Where Line Gave Way. Right: Looking Towards the Northwest. Engine No. 3 Pumped from Basin by Meter House Marked "X"

Coney Island Has Another Five-Alarm Fire

The arrival of warm weather sees the opening of amusement parks—and more headaches for the fire service.

One of the first of the year's serious fires in such hazards wiped out a dozen one-, two- and three-story flimsy structures near the heart of Coney Island, New York, on May 12, requiring a five-alarm assignment before it was controlled.

The fire, discovered at 5:30 P.M. in refuse in an alley, was spread by a brisk wind and involved a block-long area on Surf Avenue and the Bowery between Henderson Walk and West Twelfth Street.

The black smoke, given off by burning tar roofs, and heavy movements of apparatus brought crowds of spectators. At least forty-five firemen and civilians were injured or overcome by smoke. At the height of the blaze fifteen firemen from Engines 247 and 253 were knocked out by smoke but returned to duty after treatment.

Fire Commissioner Frank Quayle and Chief of Staff and Operations, Frank Murphy directed fire fighting operations. At about the same time this fire was being fought, other firemen in the Borough were called on two alarms to quell a fire in a three-story brick factory at 553 Kent Avenue, occupied by a manufacturer of doll carriages. This blaze was controlled by 7:30 P.M., but it was 9:30 P.M. before Frank Murphy reported the fight on the major blaze won.

This fire was not far from the site of the four-alarm fire of August 12, 1944, which destroyed half of Luna Park, Coney's famed playland, with loss of over $500,000, causing injuries to thirty-five firemen and civilians. Forty-two engines, sixteen ladder trucks, a rescue company and other special units were manned by over 300 firemen in this struggle and in the operation to extinguish a simultaneous fire started by embers from the original blaze. This fire necessitated four-alarms and the transfer of companies from Manhattan and other Boroughs to protect the areas left uncovered by the concentration of forces at the Coney conflagration.

But this wasn't all. On October 2, 1946, another fire, of four-alarm proportions, caused by sparks from a welder's torch, swept the gutted ruins of Luna Park, practically completing its destruction. Twenty-six engine and ladder companies and over 200 firefighters struggled for several hours to control this threatening blaze. One fireman was seriously injured.

N.B.F.U. Issues Model Fire Ordinance

A new and revised edition of the Model Fire Prevention Ordinance to assist municipalities in regulating hazardous processes and use of dangerous materials has been issued by the National Board of Fire Underwriters.

The Model Fire Prevention Ordinance is not a building code: it comes into operation after the building is completed. It is concerned with the establishment of a fire prevention bureau in the fire department and prescribes regulations dealing with the hazards of materials and processes which involve life and accident hazards of the building occupants and the public in general.

These include such materials as gasoline and other flammable liquids, explosives, fireworks and pyroxylin plastics, and processes such as welding and dry cleaning.

The additions appearing in the 1947 edition are regulations for the operation of woodworking plants and lumber yards; an ordinance regulating circuses, tents and carnivals which originally was drawn up after the Hartford circus fire of 1944; a section giving fire departments authority to prohibit smoking in places where hazardous materials are used, stored or manufactured; and provisions regulating refinishing work in bowling alleys.

In addition to restrictions applying to materials and processes, the ordinance gives the fire prevention bureau authority to issue licenses and permits covering various occupancies and requires inspections to be made of such places.

Originally published in 1930, the Model Fire Prevention Ordinance has been revised and kept up to date. Many cities have adopted its provisions, in some cases through an enabling ordinance adopting it by title. Copies of the ordinance are available in booklet form at the National Board of Fire Underwriters, 85 John Street, New York 7.

New Florida State Officers

At the 20th Convention of the Florida State Firemen's Association, held in Miami Beach, May 13, 14, 15, the following officers were elected: W. H. Barnett, Jacksonville, president; Jas. A. Fleming, Miami Beach, vice-president; E. J. Langley, Fla. State Hospital, secretary-statistician; B. B. Hart, Daytona Beach, treasurer; R. A. Starling, Tampa, chairman, legislative committee.

Photo by Bill Herries

Where Latest Fire Started at Coney Island

Flame and smoke pour from the Shamrock Irish House on the Bowery and Henderson Lane, Coney Island. It is said that these Irish houses have been in this location for 75 years. Note permanently mounted monitor nozzle in operation.

Firemen Battle Blaze at Luna Park

Firemen operating on blazing structures at Luna Park, Coney Island, New York, October 2, 1946.

Short Cuts and Gadgets

IDEA FOR MARKING LADDERS

S. Walter Van Nostrand, Roosevelt, L. I., N. Y., submits a number of contributions for this department, all of which deserve publication. Here are the first two; the others will follow subse-

quently. No. 1 is for facilitating ladder placement.

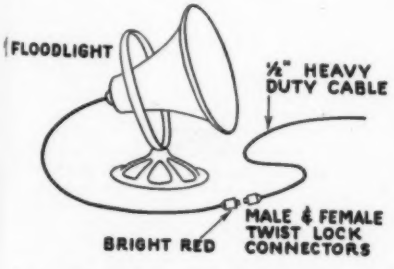
Contributor Van Nostrand says: On all ladders I had stenciled with white enamel the numerals indicating the distance the bottom of the ladder should be from the wall or building. The numeral was placed on the inside of the beam where it was not noticed by the general public. A new member (of the fire department) could easily check what he was doing. If the number was not visible he would immediately know the ladder was upside down, and it would give him the opportunity to correct it. We used a 5 for the 16-footer; 6 for the 20; 7 for the 25; 8 for the 28, and 8½ for the 30-footer.

We found that very often a man, seeing the number, would have the angle of the ladder brought to his attention, and he could correct it.

* * *

WHEN CORD IS SNAFU

No. 2 suggestion is designed to help make more effective use of floodlights. Mr. Van Nostrand says: Quite frequent-



ly in the excitement and confusion of a night fire, where floodlights were needed, we would find our floodlight cable all tangled up, and the end that should go to the truck would be at the fire-ground, or vice versa. To overcome this, I had our floodlight squad paint the twist lock connector that was to go to the fire a very bright red. The other end is left as is, so if a man has a coil of floodlight cable he can immediately tell which end goes to the fire for connection of the floodlight. He will also know which end to bring back to the truck. The connector on each length of cable was thereafter easily identified.

* * *

"ADVERTISING" FIRE HQ

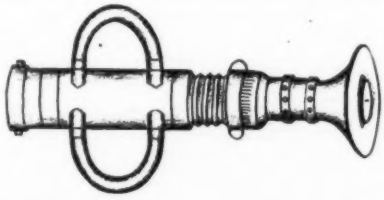
Not content with the customary red globes to indicate fire department headquarters, Marshalltown. Iowa's, central station proclaims its whereabouts to all and sundry by means of a bright red neon sign reading "FIRE DEPARTMENT," which projects out over the sidewalk.

* * *

GADGET FOR HOLDING FOG NOZZLE

Peter J. Boner of East End Fire Co. No. 4, Tamaqua, Pa., submits a sketch and description of a device his Company has contrived for holding its fog nozzle.

"We used 18-in. of 2½-in. steel pipe" he says, "and brazed a 2½-in. male on one end and a 2½-in. female coupling on the other end, then had the handles



brazed to the pipe. We carry the nozzle mounted at all times and find that two men can safely hold it with pressures up to 150 pounds."

Concluding his communication, Mr. Boner says: "We constructed a hose reel and rack patterned after the one pictured in the December issue (FIRE ENGINEERING) and find it very practical. Thank you, Chief Harold N. Vogt, Marshall, Mich." (the contributor of the idea.)

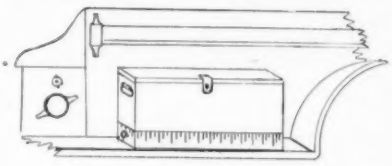
It is good to know that the ideas advanced in this page are being put to practical application.

* * *

DEMOUNTABLE EQUIPMENT BOX

Persistent contributor to Short Cuts and Gadgets, Henry T. Hanson, Maynard, Mass., comes across with another idea. He says: "I note a contribution from a New York reader describing a box carrying nozzle tips. Having seen a more elaborate scheme along this line successfully carried out, I am sending along a description of it." Here is the way he describes it—

"With rural departments that must operate with a single piece of apparatus, the usual procedure upon arrival at a burning building, if the fire is beyond the control of the booster tank, is to lay a line from the fire to the source of water. Because this leaves the pumper a considerable distance from the fire, it is generally the practice to remove the ladders, pike pole and other equipment from the truck before proceeding to the



source of water, in order that the equipment may be close at hand to the fire.

"This operation can be carried out quicker and more orderly by the use of a demountable box on the running board, containing such items as an axe, various sizes of nozzle tips, first aid kit, a hand light, gas masks and such other small equipment as can be conveniently carried in a box of this size.

"The box is made up of plywood or metal, fitted with handles at each end, and compartments arranged inside to accommodate the equipment to be carried. This box fits into a shallow metal box which is bolted permanently to the running board. Removable pins or spring clips, such as were used to fasten the hood on the older model cars, may be used to make it secure.

"In addition to the time saved in removing the equipments from the truck, use of this device also affords protection to the equipment from loss, or from damage from the inevitable mud and water of the fire grounds."

* * *

NEW USE FOR ROOF LADDER

Our 'roving reporter' was watching firemen of a certain city open up the roof of a burning building for ventilation. To remove a scuttle that covered an air shaft, he saw a truckman utilize a short-hooked roof ladder as a lever to snatch it off quickly and with little effort. The hooks were open. and the ladder was hooked on to the scuttle with the ladder lying across it. The truckman pulled the ladder toward himself, and the lid came up and slid across and away down the shaft opening.

Of course, an axe or claw tool would no doubt have done the job equally well but it so happened that the ladder was close at hand and its use had one noticeable advantage—it permitted removal of the scuttle without exposing the truckman to any sudden gush of flame, smoke or gases, which often follow the removal of such covers.

* * *

READERS SPOT ERROR — AND "SPARK" !

The editor thanks the many, many hawkeyed readers who pounced on the error in the item about "Convenient Battery Carriers" in the April, 1947 issue of this journal.

It should have been obvious that a wire carrier, described and illustrated (lower sketch) in the April issue would certainly do neither the battery nor the carrier any good, whatever! We're glad to know the "Short Cuts and Gadgets" page gets such a thorough overhauling. Although the list of critics is too long to publish, we desire every one who wrote or telephoned to know how greatly we appreciate their interest.

Tandem, Relay, Etc.

To the Editor:

Please explain the following:

1. Tandem as regards fire fighting.
2. Relay.
3. Soft water is more corrosive to a water main than is hard water (true or false).
4. Hose under good pressure is more likely to be damaged by being run over than is hose which has a minimum of pressure in it (true or false).
5. Employing too large a tip will permit too large a flow, which produces excessive velocity, resulting in too much friction loss (true or false).

A. E. M.

Answer: When engines are placed in tandem, they are placed close together so that one boosts the pressure of the other, giving a final pressure approximately equal to the pressures created by the two engines.

Where engines are placed in relay, they are placed along the line of hose. In this case, the pressure at the first engine overcomes the friction loss in the line and delivers water to the second engine at sufficient pressure to keep it supplied. The second engine overcomes the friction loss in the line from the engine to the nozzle (if two engines are used in the relay) and gives sufficient pressure to create a satisfactory nozzle pressure.

Soft water is more corrosive to water mains than hard water. Hard water has a tendency to deposit calcinous material on the main and thus make it impervious to corrosive attack.

Hose under good pressure is less likely to be damaged when run over by vehicles than hose which has low pressure. This is because the hose under high pressure is able to resist the weight of the vehicle without flattening.

Employing too large a tip results in a large flow, which results in excessive friction loss. In many cases it is possible to get an effective pressure at a nozzle on a long line, where the nozzle is operating at ineffective pressure, by decreasing the size of the nozzle.

Required Engine Pressure

To the Editor:

What would be the required engine pressure to obtain 50 pounds nozzle pressure on two parallel 550-foot lines of 2½-inch hose, one equipped with a 1⅛-inch and the other with a 1¼-inch nozzle? E. F. M.

Answer: Where an engine is supplying two parallel lines of 2½-inch hose, each 550 feet in length, and one equipped with 1⅛-inch nozzle and the other 1¼-inch nozzle, it is not possible to maintain 50 pounds at the nozzle of each, without throttling down the flow through one of the lines at the engine.

A higher engine pressure would be required to give 50 pounds at the 1¼-inch nozzle.

This is shown by the following calculations:

$$\begin{aligned} \text{E. P.} &= 50 \times (1.1 + \text{KL}) \\ &= 50 \times (1.1 + .248 \times 11) \\ &= 50 \times 3.828 \\ &= 191.4 \text{ pounds.} \end{aligned}$$

This is the pressure required at the pumper to give 50 pounds pressure at the 1¼-inch nozzle on the 550-foot line.

This same engine pressure would give a nozzle pressure at the 1⅛-inch nozzle as shown by the following calculations:

$$\begin{aligned} \text{N. P.} &= 191.4 \div (1.1 + \text{KL}) \\ &= 191.4 \div (1.1 + .167 \times 11) \\ &= 65 \text{ pounds.} \end{aligned}$$

Thus with the same engine pressure we get 65 pounds on the 1⅛-inch nozzle and 50 pounds on the 1¼-inch.

However, if the discharge gate on the line supplying the 1⅛-inch nozzle were partially closed, it would be possible to also secure 50 pounds at the 1⅛-inch nozzle.

Water Used at Fire; Friction in Booster Hose on Reel

To the Editor:

It has become necessary to estimate the approximate discharge for each company operating on a fire. What is the best method of finding this, when the number of lines and size of nozzles cannot be determined until the fire is out?

We have a hose reel wth 250 feet of 1-inch hose with a ¼-inch tip. Assuming that 100 feet of this hose is stretched and put to use, what will be the friction loss, taking into account that some of the hose still remains on the reel? The water must pass through the 250 feet at each operation regardless of the stretch. J. L. H.

Answer: The only way that a fairly accurate estimate of the quantity of water used at a fire may be made is on the basis of reports of the various company officers. These reports, in order to give necessary data, should include the size of tip employed and the period of time the line was in actual operation.

Usually an average nozzle pressure is assumed, for example, 50 pounds pressure. On this basis you can get a fairly good figure on the total amount of water discharged by the lines in operation.

With regard to the question of friction loss in 1-inch booster line, the following figures are offered:

A ¼-inch nozzle at 30 pounds nozzle pressure discharges 10 gallons per minute. The friction loss in 1-inch booster line carrying 10 gallons per minute is 3.5 pounds per 100 feet, or 8.75 pounds for 250 feet.

If the nozzle pressure is 42 pounds, the discharge will be 12 gallons per minute, and the friction loss, 5 pounds per 100 feet, or 12.5 pounds for 250 feet.

Where the nozzle pressure is 58 pounds, the discharge will be 14 gallons per minute, and the friction loss, 6.5 pounds per 100 feet, or 16 pounds for 250 feet.

The friction loss will be greater where water is flowing through the hose on the reel. The increment will be dependent upon the amount of hose which still remains on the reel when the line is in operation.

We might assume an average increase for average conditions of 20%. Thus each of the figures given above for friction loss would be increased 20% to give an approximation of the drop in pressure when a large part of the hose still remains on the reel.

It will be appreciated that this is merely an estimate, but we believe it is satisfactory for common use.

"True and False "Questions

To the Editor:

Will you answer the following "true or false" questions:

1. Layers of fire foam are likely to be of shorter duration in fire extinguishing effect than are the wetting effects of other types of extinguishers.
2. The discharge from a foam extinguisher is a better conductor of electricity than is the stream from the soda and acid type of extinguisher.
3. Standpipes produce more friction loss than do hose lines inside a building (standpipe and hose are the same size). D. R.

Answer 1: Specific data are needed in answering this question, i.e., are the layers of foam and extinguishing liquid of the same depth? Does each include the quantity of liquid per unit of area covered? What type of foam is employed: chemical or mechanical?

As these data are not included, the logical procedure would be to assume that in each case the quantity of liquid per unit of area is the same. On the basis of this assumption the answer would be "False".

Answer 2. There are several facts which we must know before this question can be answered. The diameters of the streams, the consistency of the foam, whether slimy or dry; the type of foam (mechanical or chemical), the distance of nozzle to the point of electrical contact, and the quantity of excess soda or acid in the chemical extinguisher stream must first be known before an answer can be given.

We believe that the answer "True" would come nearer the correct answer than "False", but either answer could be contested on the basis of reasonable assumptions made by the candidate.

Answer 3. What are the lengths of hose and pipelines? These figures must be known before the question can be answered either "True" or "False".

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Swank Fire—No End!

Hotel fires keep making the headlines, but this 'un got top billing. The blaze, March 15 last, was, of all places, in one of the most luxurious suites of the super-luxurious Waldorf Tower, 301 Park Avenue, New York—a most super-section of the super-de-luxe Waldorf-Astoria Hotel.

More excitin' than the blaze, which damaged two rooms of a swank six-room super-suite and the personal effects of the Baron and Baroness Egmont van Zuylen of Holland (including a little inexpensive $2,000 mink coat), was the fact that one of the several volunteers who fought the fire, until the reg'lars arrived, was none other than the Duke of Windsor.

The Duke who, with the Duchess, had been staying at the super-swank Waldorf, was drawn to the scene by the sounding of the hotel fire alarm at 11:55 P.M. and the noise made by the hostelry's own emergency crew in getting to work. The fire was on the 36th floor, and the Duke promptly got himself a job helping stretch the hotel house line.

Reports hath it that after five minutes of getting the royal nose full of smoke and when the crowd of sightseers and firemen got too large the Ex-Prince of Wales retired to his own 'modest' apartments on a lower floor, while the New York City Brothers took over the job.

Nothing much else happened except—oh, yes, one of the Bravest found a mere $250,000 worth of jewels belonging to the Baroness and promptly returned them to her whereat she and the Baron resumed their interrupted bridge game!

* * *

Firemen on the Carpet—and How!

An early morning social error, in which firemen trampled the living room rug of the wrong house while fire blazed next door, brought the Brothers of Richfield Fire Company, New Jersey, "on the carpet" before Clifton's Police Chief and Director of Public Safety, James N. Marsh.

The Richfield fire fighters pulled the *faux pas* at 1:30 A.M. of a Saturday morning at the home of Louis Clarkson, 417 Clifton Ave., Clifton, according to reports. The fire however, was at 415 Clifton Ave., home of Myles Kelly.

According to a report submitted to Safety Director Marsh by Fire Chief James L. Sweeney of Clifton, the firemen forced the door of the Clarkson home. Mrs. Clarkson was drenched and water was sprayed onto the rug and piano. Clarkson complained that one of the two firemen who played the prominent roles in the drama, needed persuading not to chop a hole in the wall.

According to Sweeney's report, Engine Companies 1 and 3 stationed in mid-Clifton, responded first to a telephone alarm. When Assistant Chief John Zanet saw the fire was mushrooming through partitions, Sweeney said, the Richfield firemen were called.

Sweeney reported that two members of the Richfield department responded and Chief Zanet ordered one of them to take a hose line through the front of the burning house. The other was to follow with an axe.

The men, the report said, entered the wrong house.

Damage to the Kelly home was estimated at $6,000; no estimate was forthcoming of the Clarkson's damage! (Thanks George P. Zink)

* * *

Blaze Traps Town Fire Truck

Norway, Ia., citizens are congratulating themselves, and volunteer firemen, that the community's fire truck, the calaboose and the town pump were saved when fire, caused by an overheated stove in the council chamber, gutted two rooms in the town hall on a Sunday morning at 3:00 A.M.

Joe Vanous, farm worker, sleeping in the one story brick building, was awakened by the fire and ran about a block to turn in a telephone alarm. When the volunteers arrived, they could not get at their fire truck, which was housed in the burning building. They went after another unit, however, which had been placed in temporary storage and battled the blaze for an hour and a half after managing to haul the trapped truck out of the burning structure by hooking another truck onto it.

* * *

McDonnell of Missouri Reports—

The following contributions by Clipper W. A. McDonnell, St. Louis, Mo., rate top-drawer in the "Watch Desk."—

From Walla Walla, Wash.—Things happen twice in this place besides the name. At 3:30 P.M. a city garbage truck drove up to fire station No. 2. The driver excitedly asked the firemen to put out a fire in his load. This they did.

At 3:43 P.M. the same thing, only for another truck, happened at Station No. 1.

Bubble Bubble, Toil and Trouble—In Buffalo—Firemen of Engine 23 were forced to barricade themselves in their station one night and call police reserves as more than 300 children clamored, howled and yelled for free bubble gum.

Firemen said the rumor of free bubble gum at the station apparently started at a nearby playground. Word spread fast and the youngsters swarmed on the station from all directions. Two carloads of policemen finally dispersed the gum-hungry kids after a nearly three-hour siege. Don't ever mention bubble gum to the Brothers of Station 23!

Asks For Nearest Box—Gets Action! R. E. Meyers, manager of the Washington Hotel in Chicago's Loop, sat in his office trying to fill out a sheet of self-instructions sent out by the Chicago Fire Department. One question asked: "Where is the fire alarm box nearest your place?"

Myers called the switchboard. "Send a bellboy", he said, "to find the nearest fire alarm box."

"Fire" screamed the switchboard operator, Dolores Hart, at Mike Rizzio, bellboy, "Send in an alarm." Rizzio darted out and pulled an alarm box on La Salle Street. Fire engines sireened up to the hotel and firemen rushed in. It took Meyers a while to explain things. "You might tell your belihop," said a fireman, "that the alarm box on Wells street is closer!"

* * *

Notables Labor to Extinguish Fire

Jean Dalrymple, Broadway producer, had as dinner guests in her home in the Long Ridge section of Danbury (Ct.), Aswaldo Aranha, Brazilian Ambassador to the United States and currently president of the United Nations Security Council; Gladys Swarthout, opera star; her husband, Frank M. Chapman, Jr.; Miss Dalrymple's father, John Dalrymple and Gerald M. Loeb, a partner in E. F. Hutton & Co. stock exchange firm, when fire was discovered in the one-story frame garage about fifty feet from the Dalrymple house.

The guests formed a bucket brigade in what proved a futile attempt to save the structure and a 1947 automobile. Two pieces of apparatus were sent by the Danbury Fire Department under Assistant Chief John H. Ireland.

* * *

Admits to Arson Orgy

Climaxing a search of months for a mystery arsonist operating in North Central Missouri towns, Col. Hugh Waggoner, chief of the Missouri Highway Patrol, announced that the terrorist was Elopus Walker, 46-year-old Negro ex-convict, formerly employed in a duplex at 3803 Washington St., Kansas City, Mo., only two blocks north of No. 19 Fire Station of that city.

Walker, mild-mannered janitor, confessed after being questioned for six hours, to firing twenty buildings causing losses estimated at a quarter million dollars. His torch forays began in September when fires were started in two towns, then jumped to November when six towns suffered fires of his starting. Charges of first degree arson and second degree burglary and larceny, carrying penalties of from one one year to life have been filed against him. He was captured in Chillicothe by city police after one of the most active man hunts ever waged in the area.

Walker admitted to setting the first fires in Corder, Mo., early in September. In most cases he used gasoline, which he siphoned from cars or trucks. Straw was used to touch off some barns. He set fire to a barn and a garage in Wakenda, Mo.; a shed in Brunswick, Mo.; a large house in Gilliam, Mo., where he stole gloves and a flashlight from a truck and some change from a lady's purse. This purse later aided in tracing the lanky Negro. He admitted to starting fires in three stores in Higbee, Mo., using gasoline, then entering houses during the excitement caused by the fires. He burned two buildings and a lumberyard in Mayview, Mo., two more in Laredo, Mo. He then stole a train ride to Chillicothe where he was picked up on Highway 65 through tips given the police who were watching for a "tall Negro."

Queried as to why he set the fires he replied "Damn meanness is the only thing I know." (We are indebted to correspondent John Waas for complete details of the crimes and capture of this arsonist)

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

JUVENILES—AND ARSON

THE discussion in this Round Table is a continuation of that which appeared in the April and May issues of FIRE ENGINEERING on juveniles and arson.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to the July issue as well.

Readers are invited to send in their comments on this subject. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

HERE IS THE QUESTION

1. **Have you experienced any cases of fire setting by juveniles during the past year?**
2. **How many fires are believed to have occurred from this cause during 1946?**
3. **Did any such fires develop into major ones? If so, what were estimated losses?**
4. **What do you believe to be the basic cause of juvenile fire setting today?**
5. **What suggestions would you make for correcting this dangerous development.**

Discussion of the Topic

G. F. Nalley, Chief, Little Rock, Ark.: Very little trouble has been experienced in the past year from juveniles setting fires in this city.

Department records reveal a total of three fires as caused by juveniles from January, 1946, to present date, with minor losses to properties. Damages will not exceed $100.00.

It appears that the juveniles seek excitement and thrills, and find no other outlet for their emotions. In the past few months activities of the Recreational Department of the city have provided various enterprises for these youngsters which have been proven to be of more interest. The increase in attendance clearly indicates that such an organization is beneficial to the younger citizens of this city.

An interesting case which was closed several months ago after a vigorous investigation was made, revealed an organization of teen-age boys known as the Skull and Crossbones Gang. This group composed of boys from seven to ten years of age finally confessed to setting twelve fires over a period of several months. They prepared homemade fire bombs, and driving around the city, tossed these bombs into a number of buildings, in some instances causing damage before the fires were extinguished. Usually a paper bearing the skull and crossbones design was found on or near the building. When finally apprehended, the main reason given for the fire setting was that they liked to see the roaring fires and the running apparatus.

Henry G. Thomas, Chief, Hartford, Conn.: From January, 1946, to date we have had thirty-nine cases of fire setting by juveniles. In the year 1945 there were eleven. None of these fires developed into major ones.

The basic cause of this problem, to my mind, is a lack of understanding on the part of the child of the seriousness involved. To this end, I believe that there should be more fire safety education given in the school and in the home.

We recently had a case where two boys, both fifteen years of age, broke into an office of a rag shop. They took some small articles and started to rummage through some checks and papers in the drawers. They then piled these papers and checks on the table and set fire to them.

When apprehended, the boys were asked why they set fire to these papers and checks. One of the boys replied that they wanted to destroy their fingerprints. They stated this idea was obtained from the movies.

G. R. McAlpine, Chief, Oklahoma City, Okla.: I would like to say that we have experienced a lot of this type of fire setting in this community. During the year 1946, I would estimate that we had thirty-five or more fires set by children. These fires were in outbuildings, garages, grass, rubbish, school houses, and churches. However, none of the fires during 1946 was of a major nature.

Then on January 27, 1947, at 12:50 P.M., we received a fire alarm for a lumber yard in the 2200 block North Broadway. This was a major fire, requiring a second alarm response, and took approximately one hour to bring under control. This fire was situated in a highly congested industrial area, and could have developed into a conflagration, but was controlled with a loss of aproximately $22,000.

This fire, in the opinion of this department and its investigators, together with the people who owned the lumber yard, was set by three boys of high school age.

These boys, students at one of our high schools, were seen in and about the lumber yard just before the fire. Then during the fire, or just after the fire had been brought under control, these same three boys were seen to start a fire, using paper for fuel, in the building adjoining the lumber yard. One of my captains had his attention called to the fire and he immediately had a charged hose line that was still in place moved over, and the fire extinguished.

These boys ran, one east, the other two south along a railroad. My Chief Officer picked up the latter two and brought them back to the scene of the fire. They were identified by a man who saw them. The other boy set the fire, but we never could find him.

We made quite an extensive investigation and search for the other boy, but after holding the two captured boys in jail for three days were compelled to release them.

On March 19, 1947, at 6:00 P.M., we had a major fire involving a building that had stored in it 800 bales of cotton. A first alarm response and two specially called engines were required to control this fire. This fire did about $15,000 damage.

During the investigation, we found that four 15-year-old children had run away from school and stayed all night in this cotton warehouse. We found that two of these children were boys and two were girls. One of the girls said, upon questioning, that they woke up, and the building was full of smoke and they had a hard time getting out.

This was an iron-clad building, and one sheet of the iron had been removed. These children had crawled through this hole, and during the night were smoking cigarettes which set the cotton on fire.

Now, as to the average fires caused by children, they were of a minor nature during 1946, as I have indicated. However, the fires involving schools and churches did considerable damage.

We picked up many of these children and questioned them, and we are pretty sure we had the right ones, but in each case we could only lecture them.

It has been our experience that lecturing the entire student body at the elementary school will eliminate the set fires. At least we think children of the elementary age will, if placed on their honor, not only refrain from such acts but will report other children who might set a fire.

We believe the best approach to this problem, where it involves small children, is to appear in full uniform before the student body in these districts and ask their help, and put them on their honor to report all such acts to the Fire Chief. This has worked for us.

When you get into the high and junior high ages, it has been our experience that the lecture method does very little good. However, we have had some trouble in some of our high

schools, and in some instances boys have put the fire alarm bells out of service by cutting the wires or bending the bell clapper. They have also started fires. This, in our opinion, is a serious offense, and we have rounded up large groups of these boys suspected by the Principal as being involved. We lectured them for hours, and think we have obtained results in several cases.

This whole problem appears to me to be an educational problem, and, due to lack of education, the situation has gradually grown to the point where something should be done about it. I believe that if a uniformed officer, preferably the Chief of the Department, could appear at least twice each year and talk to the children of every school in his city, you would notice a decided drop in such fires.

The school authorities will welcome such a program. I have for many years taken the responsibility to talk to the children in our 83 schools at least once each year.

I realize the Chief is busy and finds it difficult to attend to all the problems of his department. In my opinion, to write the things not to do down in a book and give it to the children, is not as effective as when the fire chief himself speaks to them.

It is true that many of the children we pick up for setting fires, have little if any home life, but even if the parents fail to teach their children, I still think the greater part of the children will do the right thing when they know what the right thing is.

I have rambled around on this subject a lot, and could write a book on my experiences. I know definitely that it pays dividends when the children in the community know their fire chief and agree to help him eliminate fires.

Albert J. Sullivan, Chief, San Francisco, Cal.: From January 1, 1946 to date we have experienced 178 fires caused by juveniles. Two of these assumed major proportions and considerable damage to buildings and contents was done in each instance.

I believe fire setting by juveniles is caused by lack of proper home supervision. Many come from broken homes where the parents are separated or divorced or where one or both parents are dead and the children are placed in foster homes.

When children are apprehended they and their parents should be taken before the juvenile authorities. The mentality of the child, the background and home conditions should be investigated. If necessary, the child should be placed in a corrective institution where proper medical care would be administered.

It is not our desire to have children of a tender age separated from their parents, and we avoid so doing if after investigation we find the home conditions satisfactory and have the assurance of cooperation from the parents or guardians.

In other instances the child should be punished and made to realize the seriousness of his act by being deprived for a period of time of his hobbies or pleasures such as movies, radio programs he enjoys, comic books, etc.

The school officials where the guilty child attends should be notified and punishment in the form of compositions on fire prevention should be given to make the child conscious and fire prevention minded. For example, these compositions should deal with such questions as "Why I will not and Why I Should Not Play with Matches or Light Fires."

On September 20, 1946 a fire of major alarm proportions originated in the basement of a frame building which was occupied as a foster home for five children. The fire spread to adjoining structures doing considerable damage. Investigation revealed that a 13-year-old boy, one of those living in the building, was responsible for the fire. He subsequently lighted four other fires in homes and schools where he was housed. Fortunately these fires were discovered shortly after being lighted and only nominal damage resulted. This boy has been a ward of charitable organizations since he was three years of age and has been in fourteen different homes during that period of time. He is now under strict supervision by men (priests) who have made a lifelong study of such cases and there is hope for his ultimate rehabilitation.

C. W. Hall, Captain, Fire Prevention Bureau, Cleveland, Ohio: We have had about thirty fires caused by juveniles in the city of Cleveland.

I believe the basic cause of fire setting by juveniles is lack of proper home supervision by parents. In many cases both parents are employed and the child is left to his own resources.

I believe that education in school and by parent-teacher groups on proper home supervision of children would help to correct this problem.

A 10-year-old boy with a record of setting fires since 1944 for excitement was picked up by the Arson Squad after a fire in a downtown theatre, the drapes of which were set afire with a small loss. The manager of the theatre obtained the name of the boy who had been the occupant of a seat near where the fire was set. A lady told the manager he was not the boy and the manager let him go. About a week later a similar fire occurred in another downtown theatre and the name of the boy was obtained from the manager. The Arson Squad followed this information and the boy admitted setting both theatre fires as well as other fires in the neighborhood of his home, mostly fires in rubbish accumulations in the rear of stores. In November, 1944, he was seen and identified by the owner of a motorcycle agency.

The fires in the theatres were both extinguished by employees with no alarms turned in and with minor losses.

The boy was held in the detention home of the Juvenile Court and was later sent to the Bureau of Juvenile Research in Columbus, where he was examined and later released to his parents on probation after being detained for three months time.

This boy admitted to setting fire to mail boxes and in a vacant house next door to where he lived. On another occasion he set fire in the rear of a furniture store doorway and was seen by persons living in a nearby block when he ran from the scene. The fire was extinguished by the Fire Department before it got into the storeroom proper. On another occasion running from a fire he fell and broke his arm. In October, 1946, he was placed on probation and returned to school until February, 1947, when he was released by the school authorities as a mental case. Shortly after this he got into trouble in a public library near his home, throwing books around. He

(*Continued on page* 414)

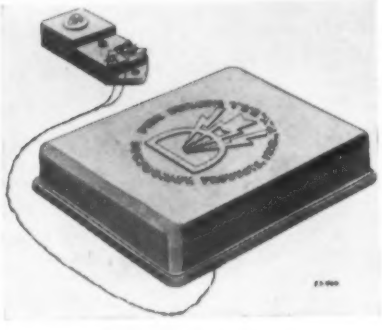
Volunteer Firemen Aid Cancer Drive

In a special ceremony at Company No. 3 Headquarters of the North Braddock, Pa., Volunteer Fire Department, Clyde House, Treasurer of the North Braddock Firemen's Cancer Committee (seated left), is shown handing a check to Attorney Arnold D. Wilner, Public Relations Chairman of the American Cancer Society's Allegheny County Division. North Braddock's three fire companies collected a total of $4,483.00 in door-to-door solicitations in North Braddock and parts of Braddock. The idea of firemen's participation in the cancer drive was originated by Volunteer Fireman Dom DePalma, a North Braddock barber, whose sister died of cancer. Mr. DePalma's determination to do something about it fired the enthusiasm of his fellow-firemen who joined him in the cancer drive. He described cancer as "another fire which firemen should help put out."

Manufacturers' Announcements

Dictograph Fire Alarm

The Dictograph Products, Inc., of 580 Fifth Avenue, New York 19, N. Y., has announced a new building fire alarm system which they have named



Dictograph Fire Alarm

the "Fire Detective". It is designed for use in homes, farms, offices, stores, boats and factories and, as it uses battery power, it requires no connection to electric systems.

Basically the system consists of the "Fire Detective" (master control unit) and four thermal detection units (more may be added if desired), which are readily connected together with electric wires. The master control unit houses a bell, which rings continuously whenever the temperature at the thermal unit reaches 160 degrees F.

The thermal units may be tested individually at any time by pressing a button provided on the face of the unit.

The battery, or cell, is the war-born "R" cell, which has a life expectancy of years, according to the manufacturer.

New Way to Make Snow

About fifteen years ago Pyrene Manufacturing Company of Newark, New Jersey, pioneers in introducing fire extinguishers employing an extinguishing agent other than water, first offered air foam as a means of smothering flammable liquid fires.

A pattern of this air foam laid on the ground looks exactly like a snow bank, which gave Frank Capra, famous motion picture director, an idea. His pictures have been noted for impressive natural effects such as are produced by rain, floods and snow. Capra's idea was carried out in his recent success, "It's a Wonderful Life," starring James Stewart.

Much "snow" falls in this picture, but the theatre audiences are watching a discharge of air foam from Pyrene foam playpipes, not cornflakes which heretofore have been used in the movies to make a snowfall.

Hollywood reports that the new type snow is a great success.

Safety Shield for Firemen

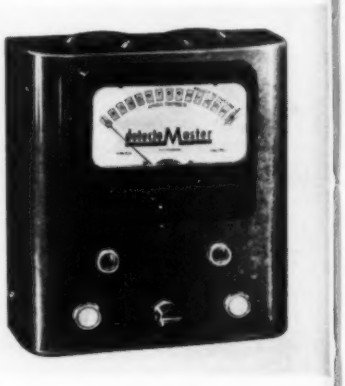
To protect the face of the fireman from intense heat when operating on hot fires, the Firemen's Safti-Shield has been introduced by the Firemen's Safti-Shield Company of 310 Waynesville Avenue, Asheville, N. C.

The shield is made of transparent, heat-resistant plastic and is so attached to a helmet that it can be swung back on top of the helmet and out of the way when not needed. The shield protects the face, eyes and neck. In addition to shielding the face against the heat at a fire, it is also useful as protection against the cold when riding to fires on open apparatus.

New Fire and Cold Alarm Systems

Lord-Taber Co., Inc., Canandaigua, N. Y., electrical manufacturers have recently placed upon the market an electrical alarm system which warns of fire and indicates its location. It is called the DetectoMaster.

DetectoMaster is made up of (1) a control unit, an enamel finished housing, which may be mounted anywhere provided the location is such that the alarm may be heard in event of trouble. (2) Feeding into the central control on the standard installation are 15 thermostats. They are to be placed at strategic places throughout the property protected, locations where fire is most likely to strike, or any abnormal variation of temperature should have immediate attention.



New Fire and Cold Alarm Device

In the event of temperature fluctuations, such as precede fire or freezing, the thermostats open the circuit, and an impulse is flashed to the central control. The green safety light goes off, the red danger signal goes on, and a "Klaxonette Horn" sounds. An indicator needle on the panel board then points to the location from which the thermostat is sending in the danger signal.

New Type of Fog Nozzle

The "Callander Centrifugal Fog Rifle" developed by M. E. Callander of 2911 N. Fitzhugh, Dallas, Tex., represents the adaptation of principles used in atomizing nozzles developed for the division and projection of molten rock, fuel oil, gas and the like.

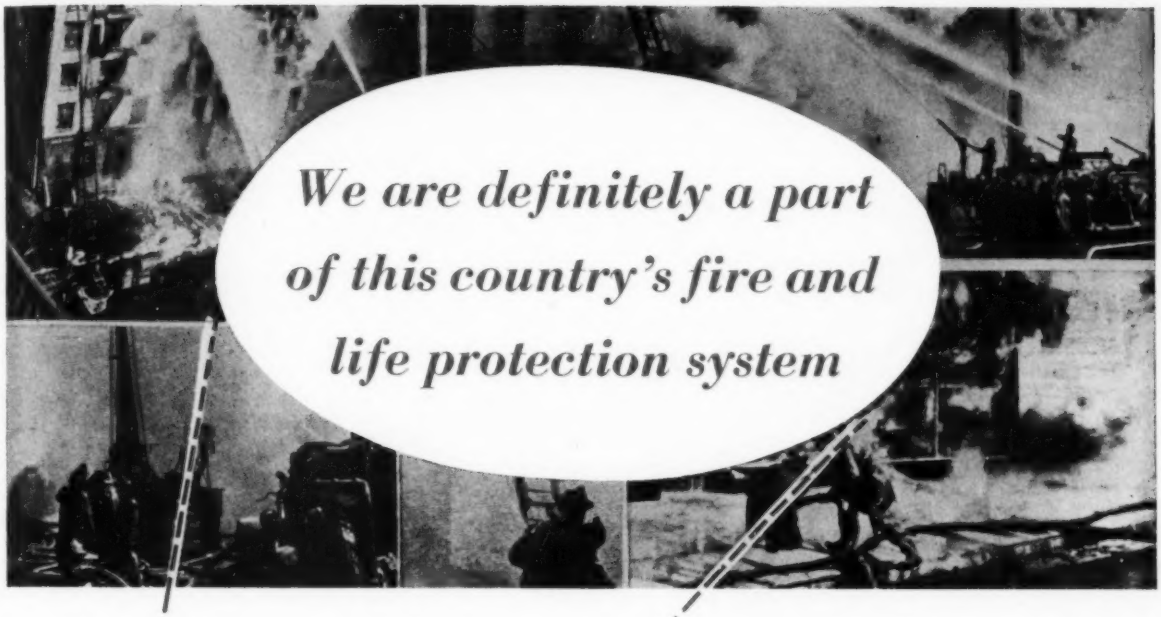
In the original form, these nozzles used steam or compressed air through the orifices, the material to be atomized being introduced to the nozzle forces after they had issued from the orifices. They have been and are being used in the manufacture of rock wool insulation where a stream of molten rock or slag falls into their forces and is divided and spun into a maze of microscopic glass tendrils. As oil burners, these nozzles divide and project heavy fuel oil so finely and so uniformly that the resultant combustion is practically complete.

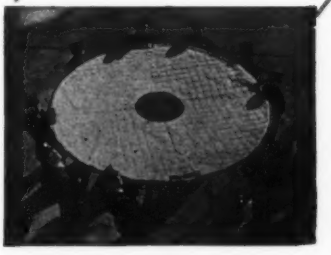
These are only two of the uses to which the Callander nozzles have been applied. They produce good results in dividing and projecting any liquid. The chief principle of the nozzles is that the axes of the jets issuing from the orifices are so directed that they do not interfere with each other in flight.

The Callander centrifugal fog rifle gets its name from the fact that the forces issuing from the orifices converge toward each other but not at each other. They are directed into a waist, or vortex, just large enough to contain them and the water in them and the water introduced within them tends to become a solid body. However, to accomplish this, the forces must be directed tangentially to the virtual cylinder formed in the vortex and this gives a violent spin to the body of

(*Continued on page* 400)

Frank Capra Has Enhanced the Dramatic Effect of Incidents in "It's a Wonderful Life" by Presenting Them in a Snow Storm. Driven by His Urgent Problem, George Bailey (James Stewart) Breaks Into a Run Through the Falling "Snow," Which Is Pyrene Fire Fighting Air Foam





We at ATLAS offer a definite service to improve rescue operations. Certainly, we build and sell the world's finest life net. But, we go further than that. We are constantly inspecting old life nets and offering expert opinion on their condition and what service can be expected of them. We have often, and still do, go out of our way to properly instruct firemen in the handling of life nets. Remember, the next call may mean the use of life nets. Be sure you are ready. Call on us for inspection, instruction if it is needed—and—for the world's most modern, most dependable life net.

When nets are needed they are needed FAST! Carry them on the first apparatus to arrive. Specify ATLAS nets on all new pumpers.

ATLAS SAFETY EQUIPMENT CO., Inc.

27 WARREN STREET ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ NEW YORK 7, N. Y.

FOR BRYN MAWR FIRE COMPANY
It's Another AHRENS-FOX!

- Since 1916, Ahrens-Fox Pumpers have maintained an outstanding record for dependable service at Bryn Mawr Fire Company, Bryn Mawr, Penna.
- Just delivered, this new Ahrens-Fox Model H.T. 1000 g.p.m. Twin-Triple Piston Type, Triple Combination Pumper will carry on this record of outstanding performance.

JOSEPH B. ALLEN, JR., PRESIDENT
DR. JAMES L. SHOEMAKER, FIRST VICE-PRESIDENT
N. LANE IRWIN, TREASURER
ROBERT THOMPSON, SECRETARY

Bryn Mawr Fire Company
Bryn Mawr, Pa.

May 17, 1947

The Ahrens-Fox Fire Engine Corp.,
4932 Beech Street,
Cincinnati 12, Ohio.

Gentlemen:

It is with great pride and satisfaction that we accept our new 6 cylinder, 1000 gallon Ahrens-Fox Pumper. We are glad to state that it has been officially tested by the "Underwriters" and that it has met all of its specifications and tests with flying colors. On Sunday, May 11th, in unofficial tests it developed 1487 gallons per minute and on Tuesday, under a four-hour rigid test, it met every pumping pressure, etc., as guaranteed in the original contract.

In retiring our old pumper that you originally delivered to us in 1916, we are proud of its splendid record of achievement in its 31 years of service in this community. We also have a 750 gallon pumper purchased from you in 1918 that is still in active service. The records of these two pumpers speak well for your pumpers in long service and satisfaction, and we heartily recommend them to any fire company who is in the market for a new pumper.

Very truly yours,

Joseph B. Allen, Jr. President
Horace W. Parsons Chief

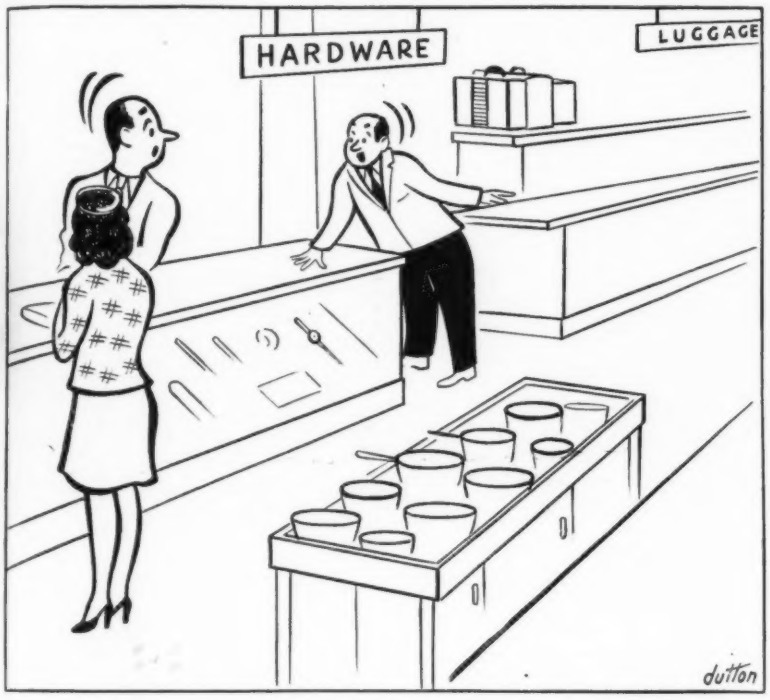
- FOR DEPENDABLE FIRE PROTECTION rely on

AHRENS-FOX

A PUMP FOR EVERY PURPOSE

AHRENS-FOX FIRE ENGINE CORP., CINCINNATI 12, OHI

FALSE ALARMS



"Give Me All the Buckets You've Got — There's a Fire in Ladies' Lingerie!"

Thrift

A preacher needed $50,000 to complete his new church. He got an electrician to wire hot plates in the pews of his wealthy parishioners with push buttons on the pulpit. Come Sunday he expatiated at length on the dire need for this money. He then asked all who would contribute $5000 each to stand up —he pushed button No. 1. Five members sprang to their feet with great alacrity. Being caught they kept quiet.

The next call was for $1000 contributions and 12 others rose as one man. "Splendid," said the preacher, "now will those willing to contribute $500 please rise?" Believe me they did. He continued on through the $100 and $50 seats. When he ran out of buttons he totaled up the take and found he had $49,950 and one electrocuted Scotchman!

Test Your Genius

Count the number of "F's" in the following sentence—only once, though—no fair going back and counting them again! Then compare your answer with that below.

"FEDERAL FUSES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF YEARS."

Figured out the answer? Well, there are really six "F's" in the sentence. If you found three of them you can consider yourself average. If you got four you're a little above average, while if you caught five of them, you can turn up your nose at most anyone. Anybody who spotted all six is a genius, and much too intelligent to be wasting his time at anything as foolish as this!

Two hillbillies who had never been on a train before had been drafted and were on their way to camp. A food butcher came through the train selling bananas. The two mountaineers had never seen bananas, and each bought one. As one of them bit into his, the train entered a tunnel. His voice came to his companion in the darkness:

First Mountaineer: "Have you et yours yet?"

Second Mountaineer: "Not yet. Why?"

First Mountaineer: "Well, don't touch it. I've eaten one bite and gone blind."

Sign in an apartment (first floor) window:

PIANO FOR SALE.

Sign in next door apartment (first floor) window:

HURRAH!

Wife (heatedly): "You're lazy, you're worthless, you're bad tempered, you're shiftless, you're a thorough liar!"

Husband (reasonably): "Well, my dear, no man is perfect.

"At Least It's a Comfort to Know We're Only Two Blocks from the Fire House!"

It's the way they're Built!

WATEROUS Fire Pumps are built to high quality specifications—they deliver maximum pressure and maximum gallons.

WATEROUS Pumps have earned an enviable record of service and dependability for the past 60 years, and leading fire apparatus the nation over is WATEROUS equipped. Your new apparatus will have the advantages of three generations of pump-building experience when you specify WATEROUS dependable fire pumps.

WATEROUS horizontally split case. The upper section of both the pump and gear case may be quickly removed and without disturbing the setting of the pump in the chassis.

Also manufacturers of WATEROUS Fire Hydrants.

Waterous (Dependable) SINCE 1886

WATEROUS FIRE PUMPS

WATEROUS COMPANY · ST. PAUL, MINNESOTA

Heat and Fire

(*Continued from page* 365)

tinued high temperature may dry out, or otherwise change, the nature of the material, so as to lower its fire point.

It is this preheating of combustible materials that causes many fires that have been smouldering for hours before discovery, to spread with lightning rapidity once they are opened up. The heat from the smouldering fire has raised the temperature of large areas of combustible material close to, or even above its fire point, and as soon as the necessary oxygen reaches the fire it travels at terrific speed.

All fires are small fires when they start. The speed and extent of their growth depends on the heat output of

Spontaneous Ignition of Oily Rags Stored in a Closed Space Such as a Locker Can Start a Factory Blaze. Large Surface Area Promotes Quick Involvement

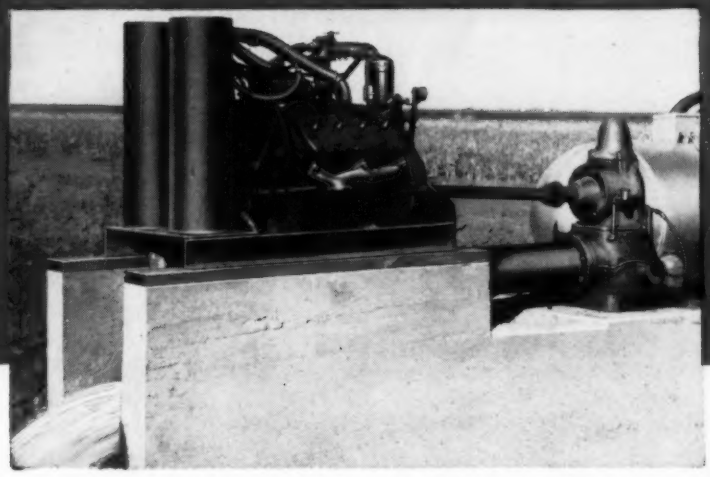
the fire at any given stage in relation to the heat quantity necessary to generate more fuel from its surroundings. Thus the heat output of the match was not sufficient in relation to the heat quantity necessary to cause the table to ignite. Had the match been the size of a blowtorch, the heat output would have been sufficient. On the other hand, the match would have had enough heat output to have ignited a pile of shavings, and the shavings generating more heat than the match, could have ignited the table. The heat intensity necessary for ignition was, of course, present from the first instant the match was struck.

Heat quantity therefore must be considered from the standpoint of both its immediate and its cumulative effects, and it must be considered in relation not only to the start of a fire, but to its progressive involvement — match to shavings: shavings to table: table to building: building to nearest exposure —and so on, the heat output always increasing with the size of the fire in a vicious cycle all too familiar to every fire chief.

This brings us to another very important subject—the flow of heat from one object to another by conduction, radiation and convection. Only in the case of radiation does heat flow equally in all directions. When heat is transferred by conduction or convection, it may follow a very narrow and some-

Wouldn't power like this do a real job on YOUR job?

MR. T. C. JAMES
Lubbock, Texas



This Ford V-8 engine has been in continuous service since 1941. It irrigates 125 acres planted to cotton and grain. Average fuel cost is 27 cents per hour, using butane gas.

"10,669 pumping hours—equivalent to 400,000 miles at 40 miles an hour—with only one ring job!"

That's what Mr. T. C. James, Lubbock, Texas farmer, writes from his cost records on this Ford engine.

"Repeatedly, 5 and 6 months at a stretch, day and night, without major maintenance."

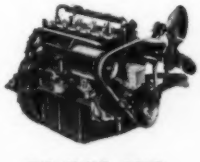
And Mr. James adds: "The average yield on dry land farming in this area was one bale of cotton to eight acres. I picked 145 bales off 107 acres!"

Ford engines are used to power—
Agricultural Machinery • Orchard Equipment • Air Compressors • Road and Construction Machinery • Derricks and Hoists • Electric Generating Plants Arc Welders • Fire-Fighting Equipment Industrial Tractors • Lumber and Saw Mill Equipment • Oil Field Equipment Pumps • Railway Motor Cars—and many other applications.

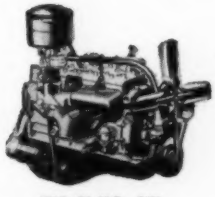
Ford

A Ford-built engine, properly installed, is an asset in any piece of equipment—from everybody's point of view. It simplifies *manufacturing;* the source of supply is stable and service parts are available the world over. It helps *sell* the equipment, because the whole world knows and respects Ford engines. It is an enduring asset to the man who *buys* and *uses* the equipment, because Ford reliability, simplicity, economy and universal service facilities mean lasting satisfaction. So, whether you build, sell or use engine-powered equipment in the Ford power range, get your copy of the Ford Industrial Engine Catalog.

FORD MOTOR COMPANY
Industrial and Marine Sales Department
3523 SCHAEFER ROAD • DEARBORN, MICHIGAN



THE 40-H.P. FOUR
119.5 cubic inches displacement



THE 90-H.P. SIX
226 cubic inches displacement

THE 100-H.P. V-8
239 cubic inches displacement

FORD-BUILT ENGINES

PREFERRED FOR INDUSTRIAL AND MARINE POWER

Please mention FIRE ENGINEERING *when writing advertisers*

BUT **NO SNAKING OR WRITHING**

In every "Streamlined" Eureka Fire Hose, two special developments known as Balanced Weave and Controlled Curing eliminate dangerous twisting or serpentining under high pressure.

Long life and ruggedness have been engineered into Eureka, without sacrificing flexibility or adding excess weight. Every length is tested for burst resistance, elongation, warp and twist. An Oxygen Bomb Test proves the aging qualities of the lining, Eureka's exclusive Smooth Interior Filler Ply insures maximum pressure at the nozzle, and mildew is prevented by "Formula X."

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

1230 Avenue of the Americas • Rockefeller Center • New York 20, N. Y.

times devious route, with a very high rate of flow, so that objects remote from the source may receive a much greater percentage of the heat output than other objects much nearer to it. As a simple example, take an unburned match and hold it at the same level an inch away from the flame of a burning match. It will not ignite. Now hold the unburned match an inch above the flame and it will ignite immediately. In the first case you had heat transfer by radiation only; in the second, you had heat transfer both by radiation and, more important still, by convection.

Space will not permit further exploration of this subject, but it is one of utmost importance and should be given the fullest study by fire chief and fire engineer alike.

The factors to be considered in fire prevention therefore are:

1. The presence of combustible material, particularly any combustible material that can be readily ignited.
2. The quantity of heat necessary to make ignition of such material possible.
3. The intensity of heat necessary to cause ignition.
4. The possible source of 2 and 3.
5. The medium of heat transfer from the source to the combustible material.
6. The progressive action resulting from the extension of the fire from its original source—here 1 becomes 4 (source of heat) thus completing the cycle which will continue in ever increasing dimensions until either the fire is brought under control or begins to burn itself out for lack of fuel.

The significance of the heat quantity factor can be seen when it is realized that in all but one of these it plays a dominant or important part.

Obviously it would be impossible to try to formulate a table that could embrace all the variables of this heat quantity to fire point equation. Such a table would have to be based upon B.T.U.'s per minute times mass times a factor controlled by shape times X-other factors such as conductivity, moisture content, as in green wood, heat reflection from painted surfaces, etc. The best we can do is to recognize these factors and evaluate them on the basis of judgment and experience.

This is the duty of the fire protection engineer who must not only be able to recognize the big hazards that cause the big losses, but also the chain of events that lead up to their involvement, from the tiny beginning to the tragic end. He must remember that fires start most easily in small things and therefore that small things are generally more dangerous than big. That an ounce of magnesium powder is more hazardous than a pound of casting, and the carelessly discarded newspaper more to be feared than a whole roll of newsprint. He must above all think of heat in terms of two dimensions—intensity and quantity —and understand the part each plays in the constantly mounting loss of life and property through fire.

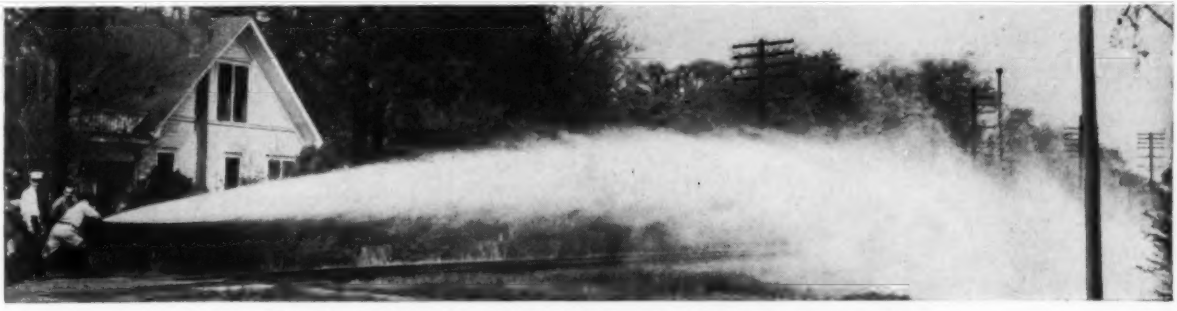
Inspections

(*Continued from page 368*)

Case Five: Fire had involved entire loft of one-story rear wing of a very large two-story frame residence with a tin roof.

Officer in charge of small town department saw at a glance the location of the fire as he rolled up. He was very

Announcing
THE CALLANDER CENTRIFUGAL FOG RIFLE



Two Men easily hold and play 250 gpm at 100 lbs. p.s.i. at nozzle.

Fire chiefs, Engineers and others who have seen the Callander Fog Rifle in operation say it may revolutionize the science of fire fighting.

Here's Why!

1 It produces excellent results—not only at 300 lbs.—not only at 200 lbs., but at ***100 lbs. pressure per square inch.***

2 It gives you the volume you need to knock fires down—not to fan or scatter them.

3 Its pattern is uniform in fog and wetting power throughout—no holes anywhere.

4 Its long range, rifled, soaking storm of rain drops entrains the fog and drives it through drafts into the zone of combustion.

5 Its effective reach (40 to 65 feet in still air at ***100 lbs. nozzle pressure***) practically eliminates the necessity for a straight stream.

6 Its centrifugally produced fog pushes air aside—reduces entrained air.

7 Its orifices are large. In normal conditions, screening is unnecessary.

8 So you can try the Callander Fog Rifle sooner, it is being made in simple adapter form to fit hose or shut-offs. Just have your machinist give us the dimensions and specifications of the male threads and gasket the adapter must fit.

Sold on a money back guarantee, of course, if returned within 30 days.

PRICES:

Booster (20 gpm at 100 lbs.)	$20.00
1½" or Spaghetti (70 gpm at 100 lbs.)	25.00
2½" play pipe (250 gpm at 100 lbs.)	30.00

This is equipment which you or your community can afford and which you cannot afford to be without. Order at least one of each size now. Distributors' inquiries invited.

PATENTED AND OWNED BY

THE CALLANDER COMPANY
2911 N. FITZHUGH, DALLAS 5, TEXAS

familiar with the building and knew that there was a door at the rear of the hall on the second floor that opened into the loft where the fire was.

He guessed, without taking time to look, that it was coming through this door and had the first hose line taken into the front door of the main section of the building and up the stairway to the second floor. Here they found that the door into the loft, which must have had an insecure fastening, had been blown open by smoke and heat pressure, and that the flames were rolling into the second floor.

The stream from this first line operated at the head of the stairs, drove the fire back into the loft, and then gradually advanced to the door and into the loft. A second line was laid and operated through a scuttle in the ceiling of the kitchen and the fire was confined to the loft and extinguished.

The point about this fire is that if the directing officer had spent even a minute or two finding out about this door, or if the first stream had been operated on the rear wing of the building from the outside, the loss would have been very much greater than it was.

Case Six: Small department was called to a fire in a clothes cleaning plant that occupied the first floor of a two-story brick and joist mercantile building at a time when there were no laws regulating such places or the use of volatile and and flammable solvents in them.

Heavy clouds of smoke were spewing from every door and window. While first hose line was being laid, officer in charge ran up outside stairway to second floor and saw that fire had not entered this. He knew the nature of the occupancy of the building, and that there was a partition, with a door, extending across it about thirty feet in from the front door.

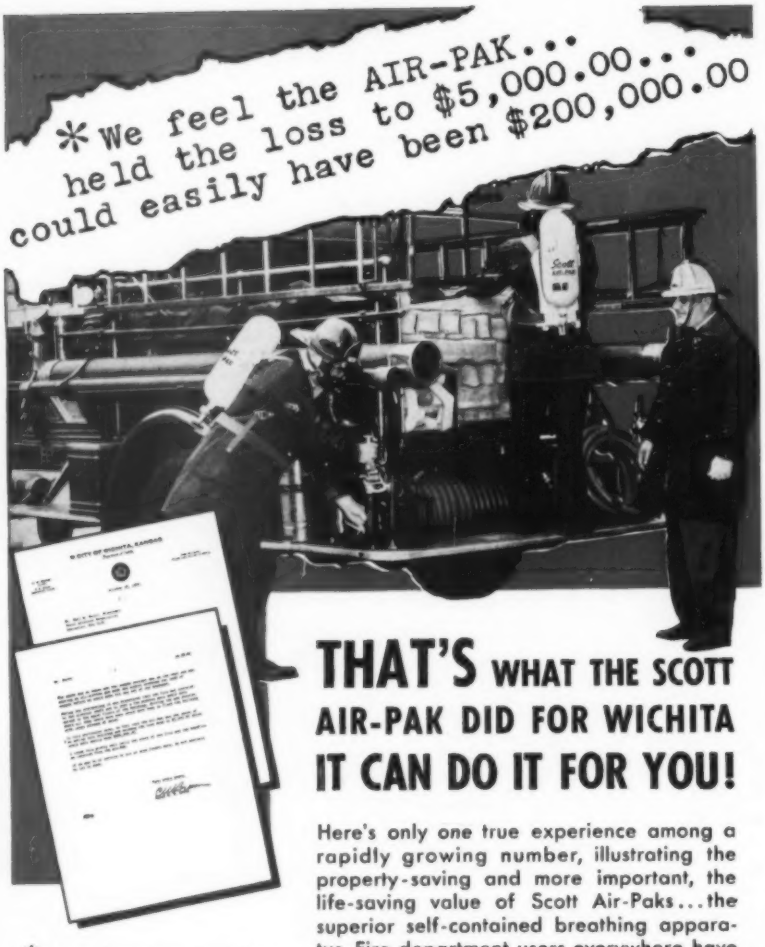
He had charged hose lines laid to the front and rear, and doors opened at front and rear.

As the smoke broke a little, he went in the front with one of the lines, found the door in the partition, and found the fire burning over an area about twenty feet square beyond this.

At his direction the controlling nozzle was partially opened so as to spray a sheet of water over the fire area (that was before the days of fog nozzles) and extinguished it with this.

It was found that several tables and racks of clothes had been involved, and that on one table there were four one-gallon glass bottles containing gasoline that the fire had almost reached. If these had been ignited or had been knocked off the table by a solid stream there would have been an extremely dangerous situation. The fire was a suspected, but unproved, case of arson. The point about it was that the officer in charge knew about the interior partition, where its door was located, and suspected that they would find something like the bottles of gasoline.

All of the cases related above occurred in a town with a population of less than two thousand people, and all the apparatus available was a model T hose wagon and a hand drawn ladder truck fifty years old. This department, however, was using 1½-inch hose and salvage covers twenty-five years ago, and was being trained by carrying out an adaptation of the drill school evolu-



*Excerpt from letter by Chief C. W. Brown of Wichita, Kansas.

THAT'S WHAT THE SCOTT AIR-PAK DID FOR WICHITA IT CAN DO IT FOR YOU!

Here's only one true experience among a rapidly growing number, illustrating the property-saving and more important, the life-saving value of Scott Air-Paks... the superior self-contained breathing apparatus. Fire department users everywhere have found *no other* apparatus containing *all* these prime features:

Can be used under all weather conditions... 20° below zero or desert heat.

Fresh, Cool Air... Not Oxygen... Instantly Ready.

Constant, Dependable Check on Remaining Air Supply.

Bureau of Mines Approval No. 1308

Write *today* for complete information and added proofs from actual usage!

SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
215 ERIE STREET, LANCASTER, N. Y.

Established in 1932
Scott
FOR SAFETY—FOR SERVICE

"THERE CAN BE NO COMPROMISE WITH QUALITY WHEN A LIFE IS AT STAKE"

WHEN FIRE PREVENTION FAILS —WHAT?

Fire prevention is the foundation, but when it fails you need the best equipment to fight the fire.

Carelessness, ignorance and other causes are building up fire losses.

The problem is then in the hands of the fireman—*how can he reduce fire losses when prevention fails?*

Modernize with FMC High-Pressure

For many years, one system has been used in fighting practically all fires. And for many years, fire losses have been steadily increasing.

Now, through a new technique these losses can be slowed down and held to a minimum in hundreds of cases. That technique is the FMC High-Pressure Fog System.

FMC High-Pressure Fog does more quenching, with only a fraction of the water. With FMC, you march right in to the heart of the fire and knock it down FAST.

Fire losses are greatly reduced. First, because FMC uses less water, therefore causes less water damage. Second, because FMC fights fires faster, therefore reduces fire damage itself.

You owe it to the people you protect to get the facts about FMC today. Investigate!

HAMILTON, N.Y. *Standard FMC Fog Fire Fighter recently delivered to Hamilton Fire Dept.*

CLANTON, ALA. *Standard FMC Fog Fire Fighter recently delivered to Clanton Fire Dept.*

UNDERWRITERS' LABORATORIES APPROVED

ANN ARBOR, MICH. *Standard FMC Fog Fire Fighter recently delivered to Ann Arbor Fire Department. Carries its own water supply—provides two guns of 30 gallons each—850 lbs. pump pressure—complete in every respect.*

GRUVER, IOWA. *Standard FMC Fog Fire Fighter delivered to Gruver and Community Fire Dept.*

PIQUA, OHIO. *Standard FMC Fog Fire Fighter recently delivered to Piqua Fire Dept.*

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

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BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

NOW READY
New
AKROLITE
FIRE FIGHTING
EQUIPMENT

PERFECTED in 10 years of research, development and test, AKROLITE couplings, nozzles and fittings offer outstanding advantages:

★ Two-thirds lighter than brass—yet tensile strength and hardness superior to brass.
★ Exceptional ability to withstand shock.
★ High resistance to corrosion.
★ Smooth, lustrous finish that will not tarnish.

Write today for special folder giving complete details and specifications.

AKRON BRASS MFG. COMPANY, INC.
Wooster, Ohio

FIREMAN FREDDIE SAYS:
AkrOLite is strong and tough, yet so light, For every fire fighting need it's just right!

AKRON BRASS
FIRE FIGHTING EQUIPMENT

tions used by the New York Fire College.

In describing these happenings it is hoped that any lessons contained in them may be of interest to the members of some other small town department.

They seem, certainly, to point out the fact that an advance knowledge of buildings where fires may occur may be of inestimable value to the fire officers of even the smallest municipality.

Arson School

(*Continued from page 372*)

S. Morgan, Executive Secretary, Fire Marshal Section, National Fire Protection Association; Chief H. V. Brannan, Fire Warden, Akron, O., Fire Department; S. P. Sides, Inspector, Fire Prevention Bureau, Columbus, O., and D. A. Mallett, Assistant Director, of Student Affairs, Purdue University. Members of the Panel then answered questions from the floor.

The evening session was given over to "Interviews and Interrogation of Suspects" with Shelby Gallien, Assistant Director, Public Safety Institute, Purdue, Chairman.

At the conclusion of his address, the members participated in a general discussion on the future activities of the Purdue Arson School and the importance of arson prevention, detection and prosecution in relation to the nation's mounting fire losses. It was unanimously decided to request the forthcoming President's Conference on Fire Prevention to include in its program, the subject of arson, and that a resolution to that effect be sent to the conference.

The final sessions on April 25 included "Convicting the Arsonist" by Herman Cohn, Adviser, Department of Public Safety, Division of Fire Prevention, Springfield, Ill., and "Mental Factors in Arson," by Dr. Richard L. Jenkins, Psychiatrist, University Health Service, University of Illinois.

Concluding, Professor Lingo summed up the work of the School and envisaged its further progress in the field, as the nation's center of learning and training for those interested in the entire subject of arson prevention, detection and conviction.

Asks Tax Exemption for Volunteers' Equipment

The following bill, introduced in the U. S. Senate by Senator Tydings of Maryland, would give tax exemption to articles used by volunteer fire departments:

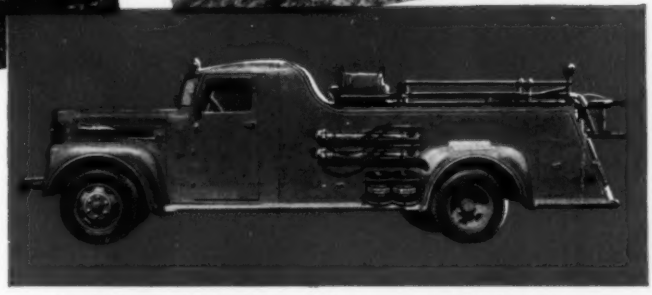
A Bill to exempt articles purchased for the use of volunteer fire companies from the manufacturers excise tax imposed by chapter 29 of the Internal Revenue Code.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Section 3442 (3) of the Internal Revenue Code, as amended by inserting before the period at the end thereof a comma and the following: "or for the exclusive use of any volunteer fire company or other corporation or association organized for the purpose of combatting fires and no part of the net earnings of which insures to the benefit of any private stockholder or individual".

ALL SET TO FIGHT FIRES with AER-O-FOAM!

One fire-fighter easily applies Aer-O-Foam with "RP" Type Nozzle and pick-up tube.

Aer-O-Foam blanket — tough, thick, adhesive.



Aer-O-Foam and Nozzles . . . MUST equipment for fire apparatus.

EFFICIENT, effective, easy to apply, NATIONAL Aer-O-Foam is the recognized method for stopping oil, gasoline or chemical fires. Aer-O-Foam is a mechanical foam . . . flows quickly . . . forms a blanket having the maximum cohesive and adhesive qualities. This blanket smothers fires . . . prevents flashbacks . . . insulates threatened areas. Aer-O-Foam is *non-corrosive.*

NATIONAL FOAM manufactures chemical foam, also, and equipment for applying foams. Its "RP" Type Nozzles, provided with pick-up tubes, deliver the foam on the target with no weeping. These Nozzles are machined for spray attachment.

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

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RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town West Virginia - Established 1892

April Fire Losses

Fire losses in the United States during April are estimated at $68,029,000, an increase of 30.4 percent over losses of $52,153,000 in April 1946, it was announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

These estimates are based on fire losses incurred by member companies of the National Board and do not include the complete losses of the Texas City disaster.

The April losses show a decline of 6.1 percent under the losses of $72,435,000, during March, which were the highest recorded since the National Board of Fire Underwriters began estimating monthly losses in 1929.

However, the April figures bring the total losses for the 12-months period ending April 30 to $616,408,000, the greatest fire waste recorded in 12 months in the nation's history. This is 22 percent greater than losses of $497,153,000 for the 12-months period ending April 30, 1946.

Fire waste for the first four months of 1947 now totals $261,891,000 which is greater than the losses for an entire year during 1935, 1937 or 1938.

Persons in the News

Chief John Moorhouse Dies

John D. Moorhouse, 72, Chief of the Brewster, New York, Volunteer Fire Department for the past thirty-six consecutive years, died April 24, 1947, after a week's illness, at Northern Westchester Hospital, Mt. Kisco, N. Y. He was a charter member and past-president of the Mid-Hudson Harlem Valley Fire Chiefs Association, a former member of the International Association of Fire Chiefs and the New York State Fire Chiefs' Association.

Chief R. P. Collatt Dies

Robert P. Collatt, Chief of the Burlington, Ia., Fire Department, died in Veterans' Hospital, Des Moines, on May 17. His death was attributed to a heart attack. He had been ill periodically since December of 1942, and had been hospitalized several times during the past year.

Chief Collatt joined the Fire Department on March 1, 1915, receiving a leave of absence to serve in the U. S. Army from August 30, 1918, to April, 1919.

After his discharge he was reinstated as a fireman, and on April 9, 1920, was appointed assistant chief. Seven years later he was named chief.

The Chief was a member of the Iowa Association of Fire Chiefs.

Former Chief Patrick Ryan Dies

Patrick H. Ryan who retired last December as Chief of the Northampton, Mass., Fire Department died in his home on May 12 from a heart attack.

Chief Ryan joined the department as a call man in 1911 and was appointed a permanent fireman in January of the following year. In 1914 he became clerk of the department. He was promoted to captain January 19, 1929 and named sec-

ond assistant chief in March, 1943. He became chief in January, 1945.

Well known among firemen of the Commonwealth, Chief Ryan served as director of the Massachusetts Permanent Firemen's Association in 1921 and was president of that organization from from 1940 to 1942. He had also served as treasurer of the Northampton Firemen's Relief Association. He was also a member of the New England Association of Fire Chiefs.

Frank Gailey, Salvage Corps Chief, Dies

Frank O. Gailey, Deputy Chief of the Underwriters Salvage Corps of St. Louis, Mo., died of heart disease on his 77th birthday. He was widely and popularly known in fire service and underwriter's circles.

Chief Gailey who served the salvage corps for nearly 54 years, was born on April 8, 1870; he entered the Corps May 3, 1893; was promoted to lieutenant, October 1, 1901; to captain, February 1, 1918, and to deputy chief, January 1, 1939. During his long service he had many narrow escapes from death. He is survived by his wife, five daughters and one son.

Campion Chief at Waterbury Dies

Fire Chief Martin J. Campion, a member of the Waterbury, Conn., Fire Department for almost 36 years and head of the Department since January 2, 1946, died April 30 in St. Mary's Hospital, Waterbury, following an illness of 12 days. He was 57 years old.

Chief Campion's 36 years service covered just about every chapter in the modern history of his city's fire force. At the age of 21, on November 1, 1911, he was named a callman and assigned to Chemical No. 1, a horse-drawn outfit stationed at the old Central fire house back of the old City Hall at Lewis and Harrison Avenues.

On November 15, 1911, two weeks following his appointment as callman, he was named a permanent member. In 1914 Chief Campion was advanced to a Lieutenant and on July 3, 1918, was promoted to a Captain and assigned to Engine 3, in the Brooklyn district of the city.

He became Drillmaster in 1921, following graduation from the New York Fire Academy and was made Deputy Chief in 1938. He served in that office until January 2, 1946, when he was appointed Chief of Department following the retirement of former Chief Thomas F. Cavanaugh.

Chief Campion was born in Waterbury, December 31, 1889.

Francis T. Scully, deputy chief of the Fire Department since Jan. 2, 1946, was promoted to the rank of chief, succeeding Chief Campion. At 43 years of age, Chief Scully becomes the youngest fire chief in Waterbury's history.

Capt. James C. McDonald was promoted to the rank of deputy chief, with Capt. William J. Fitzgerald becoming drillmaster. Both men became captains in May, 1939.

Deputy Chief Richard C. Sheehan, heretofore junior deputy chief in the department, was designated as senior deputy or first assistant to the chief.

Help!

Fire Calls for Action.....

Rapid Extinguishment of fire minimizes damage. Your fire protection problem is best solved by equipment quickly available at points of greatest hazard. For maximum protection, it's what you do NOW that counts.

Fig. 1030

Bowser Fog is Quick...

... and Bowser Fog Fire Equipment provides unlimited water fog for continuous application. Complete in every detail. A balanced unit ready for attachment to your present water line.

OPERATING CAPACITIES

Nozzle Pressure	G.P.M. Fog	Range in Feet Fog	Range in Feet Stream
125 Lbs.	24.5	35 Ft.	55 Ft.
100 Lbs.	21.8	30 Ft.	57 Ft.
75 Lbs.	19.3	25 Ft.	68 Ft.
55 Lbs.	15.9	20 Ft.	63 Ft.
25 Lbs.	11.2	12 Ft.	50 Ft.

Bowser Fog Fire Equipment is UL listed and approved for Class A, B and C fires ... common combustibles, volatile flammable liquids and electrical fires.

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BOWSER, INC.

53% More Fire-Fighting Power

with the NEW Ansul-Dugas Dry Chemical Fire Extinguisher

Engineered to provide 53% more and faster fire-stopping power, the NEW Ansul-Dugas Fire Extinguisher is ready to use—IN A FLASH—on Class B and C fires. The wide heat-shielding stream of Ansul Plus-Fifty Dry Chemical from the specially designed nozzle makes extinguishing more certain even by inexperienced employees.

STOP FIRE FASTER!

HERE ARE OTHER PLUS FEATURES

- Quicker, easier, on-the-spot recharge right after use.
- Highest Rating for SPEED and EFFECTIVENESS as determined by impartial authority.*
- New, wider coverage type nozzle with long range effectiveness.
- Greater fire-fighting power pound for pound, dollar for dollar.
- Increased fire-fighting capacity without increased weight.
- Engineered to resist corrosion.
- Ansul Plus-Fifty Dry Chemical is non-toxic, non-abrasive, non-corrosive.

*Write for charts based on authoritative data of comparative ratings as determined by a national approval agency.

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN

Chief Scully was appointed a regular fireman 20 years ago, and became a lieutenant Jan. 2, 1941. He served in the Coast Guard during the war as a non-commissioned officer attached to a fire-fighting unit.—THOMAS F. MAGNER.

Chief A. H. Lankford Retires

Chief A. H. Lankford retired as Chief of the Glendale, Cal., Fire Department on June 1, after serving his city for thirty-four years.

He went to work in the Department as apparatus driver on November 7, 1913; was appointed assistant chief on January 1, 1914, and was promoted to chief on July 1, 1915.

G. E. Courser Chief at San Diego

George E. Courser has been named by City Manager Fred Rhodes as the new fire chief of San Diego, California. Courser succeeds John E. Parrish, who

Chief George E. Courser

recently retired after 42 years on the fire department, the last 11 of which were as chief.

The new chief, born in Chicago, comes naturally by the fire fighting profession. His father, the late Capt. Allen T. Courser, retired from the Chicago Fire Department in 1912.

Courser became a member of the San Deigo Fire Department in 1914. He successively rose from hoseman and engineer to Lieutenant in 1916, Captain in 1918, Battalion Chief in 1928 and Assistant Chief in 1935.

Prominent in city sports circles and a one-time amateur boxer, Courser is an enthusiastic advocate of physical fitness programs for firemen. At 53 he still plays a fast game of handball and can hold his own in tihs sport with many of the city's younger handballers.

As his successor in the assistant chief's job, Courser has appointed Battalion Chief Eddie F. McLarney, a veteran of 27 years on the San Diego department.

George Geller, Fire Consultant

Former Battalion Chief George Geller of the New York City Fire Department, who was recently placed on inactive duty by the Navy, after serving as Fire Marshal with the rank of Lieutenant

GRAND JURY URGES PORTABLE LOUDSPEAKERS

Special to The New York Times.
ATLANTA, Ga., Jan. 3—Firemen fought the disastrous Winecoff Hotel fire with obsolete, hand-operated ladders, "which are largely twenty-five years old and entirely out of keeping with modern fire-fighting equipment," it was charged today in
The jury urged that captains and assistant chiefs receive training in directing their men by the use of portable loudspeakers and that personnel be sent to one of the Navy fire schools.
Atlanta City Council

Reprint N.Y. TIMES Jan. 4, 1947

The Fulton County (Atlanta) Grand Jury, in their investigation of the Winecoff Hotel fire, urged the use of Portable Loudspeakers by fire officers in directing their men.

Hundreds of lives are lost every year because commands are not heard. Unaided, the human voice is too weak to rise above the din and turmoil of a fire.

With Guided Radio Portable Electric Megaphones* *the voice is amplified 2500 times!* Lives are saved, commands transmitted with clarity and obeyed with precision.

"Chief" — Self-contained storage battery with built-in charger. Range over one mile. Service 1,000 ten-second messages without recharging. Aluminum case, finished in Hammertone Gray. Immediate delivery.

"Deputy" — Dry battery operation. Range over one-half mile. Service 5,000 ten-second messages without replacing batteries. Aluminum case, finished in Hammertone Gray. Weight, 7 lbs. with standard radio batteries. LOW COST.

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Address.....

City.....

Commander, is now fire protection consultant to the California State Hotel Association.

Recently William C. Robinson, Managing Director of the Association, stated in a letter to Chief Geller:

"The assistance you gave this organization during the past three months in advising us regarding Assembly Bill 753, known as the fire bill, was very much appreciated. A number of your recommendations have been carried out, and it may be possible that we will wish you to appear as an expert witness for our Association in Sacramento when this proposed Assembly Bill is scheduled for committee hearing.

Chief Geller's present address is 438 E. Montecito Avenue, Sierra Madre, Calif.

L. R. Schick, Chief at Davenport, Ia.

Lester R. Schick, 32-year-old Purple Heart veteran of World War II, has been appointed Chief of the Davenport, Ia., Fire Department.

Chief Schick is the youngest chief in the history of the Davenport Fire Department, and one of the youngest in Iowa. A lieutenant in the department, he was promoted over two captains and an assistant chief who were also on the eligibility list. He succeeds Richard A. Kelley, who died shortly after his retirement last January.

Mayor A. R. Kropach said the appointment was made in accordance with veterans preference provisions of the Iowa code.

The new Chief joined the department in September, 1939, as a fireman. He served in the army from June, 1944, to February, 1946, and was wounded in combat in Europe. He was promoted to lieutenant last January.

C. W. Ogborn Heads Columbus Fire Department

C. W. Ogborn has been appointed Chief of the Columbus, Ohio, Fire Department following an examination in which he finished in first place. Chief Ogborn succeeds Chief Edward P. Welch who died recently.

The Chief joined the department in 1912 and became Assistant Chief in March, 1926. He served as acting chief from November, 1942 to August, 1944, while Chief Welch was on leave with the U. S. Army.

Lloyd Layman Returns as Parkersburg Chief

Lloyd Layman, World War II Commander in the U. S. Coast Guard, returned to his post as Chief of the Parkersburg, W. Va., Fire Department on May 1.

Chief Layman, a former company captain in the West Virginia State Police, was appointed head of the fire department during a general reorganization program in 1931. Shortly after the outbreak of World War II he received a leave of absence from the Parkersburg Fire Department and was commissioned a lieutenant commander in the Coast Guard. He directed fire prevention and fire fighting military units on the eastern seaboard and headed up the Coast Guard fire fighting school at Fort McHenry.

After the end of the war, Chief Layman, now a commander, was assigned to San Francisco, Cal., to take charge of a series of tests on ship fire fighting methods.

F. A. Grier Heads Salisbury Fire Prevention Bureau

Fred A. Grier, Jr., County Fire Marshal, became first Chief of the new Bureau of Fire Prevention of Salisbury, Md., following appointment by the Mayor and unanimous confirmation by the Council.

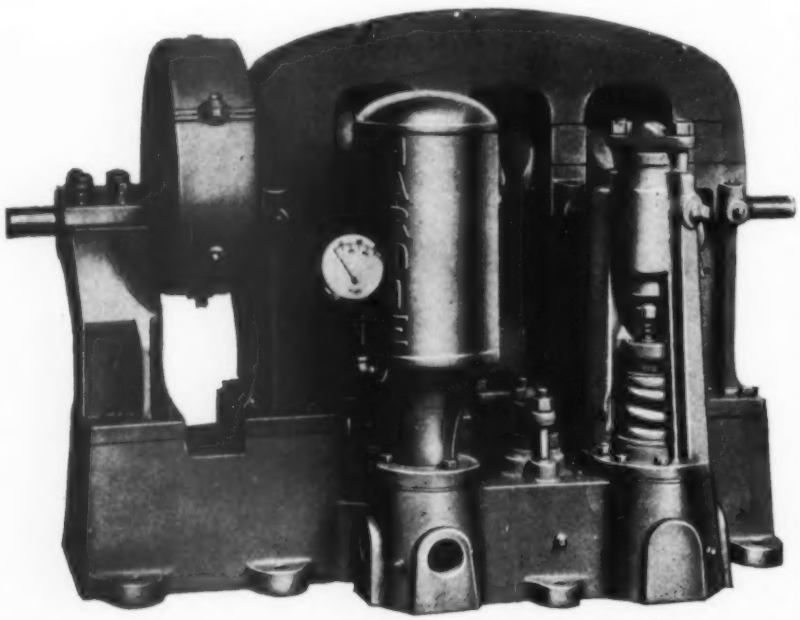
The office, with broad and specific powers, was created by the city's recently enacted fire code, Ordinance 575.

Chief Grier is an old hand at the business of fire prevention. In 1926 he won the first Salisbury Award, largely because of his efforts towards fire safety. He was for many years an active member of the Fire Department, and has served as chief. He was made County Fire Marshal in the Spring of 1945, a position he still holds.

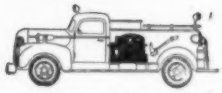
Appointments and Promotions

W. R. Servis has been elected Fire Commissioner of the newly formed Clear Lake Oaks, Cal., Fire Department.

George E. Weaver has been appointed Fire Commissioner of Nice, Lake County Cal.



It's In The Pump



● The success of fog fire fighting depends squarely upon the pump. Pressure—not less than 800 P.S.I.—is a first requisite for finely atomized fog, intermediate spray, and hard, driving stream all of which are factors in the new science of quick fire control. Hardie Fog Pumps are built in two sizes. Above, the LCXA 2-gun pump delivers 60 G.P.M. at 800 P.S.I. The Hardie XCXX one-gun pump delivers 35 G.P.M. at 800 P.S.I. Hardie pumps are standard equipment in Fog Fire Trucks of many leading manufacturers. Specify a Hardie pump when you buy or reconvert to a fog unit. Write for catalog.

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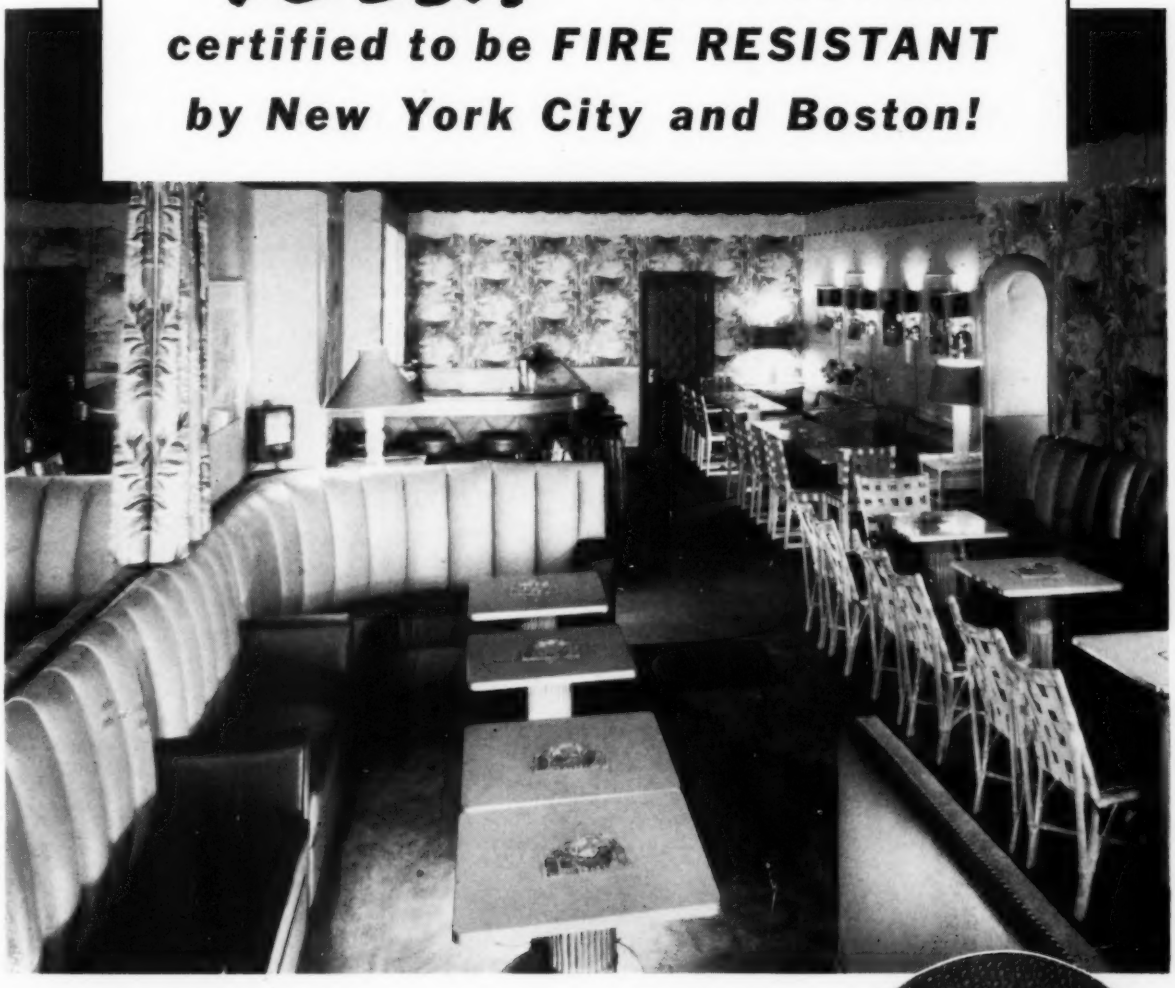

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Resignations and Retirements

EXETER, CAL.—Chief Dan King
DAVENPORT, IA.—Acting Chief Carl G. Riecke
SIOUX RAPIDS, IA.—Chief I. R. Remillard
WOOLWICH, ME.—Chief Stanley L. Jack
CASNOVIA, MICH.—Chief E. Harry Norris
GLENDIVE, MONT.—Chief James Osborne
RENO, NEV.—Chief George M. Twaddle
CHANCELLOR, S. D.—Chief Fred Kortemeyer
PLATTEVILLE, WIS.—Chief William Van Natta

Deaths

STOCKTON, CAL.—Former Chief Ralph E. Thompson
NORWOOD, MASS.—Former Chief John J. Hannigan
BRUSHTON, N. Y.—Former Chief Victor Pepper
LINDENHURST, N. Y.—Former Chief Hugo Waldau, Sr.
HARTSVILLE, S. C.—Chief H. Leland Law

Appointments and Promotions

The following have been appointed fire chiefs to head their respective fire departments:

CLEAR LAKE OAKS, CAL.—Ed Nelander
COLUSA, CAL.—Ivan Shuman
SANTA CLARA COUNTY, CAL.—Henry C. Lingua
SOUTH PASADENA, CAL.—Donald Lavenbarg
BRANFORD, CONN.—John Zvonkovic
CANAAN, CONN.—Eugene Walker
MILL PLAIN, CONN.—William Morse
NEW BRITAIN, CONN.—William T. Shaw
CENTRALIA, ILL.—Carroll Condor
ELWOOD, IND.—John Brown
LOVILIA, IA.—Harold E. Waters
NEOLA, IA.—Asa Schmaedecke
POSTVILLE, IA.—Glenn Olson
WILSON, KANS.—Emery Karban
SALISBURY, MD.—Austin Moore
AVON, MASS.—James A. McCarthy
BROCKTON, MASS.—Lawrence F. Lynch
CAMBRIDGE, MASS.—John F. Collins
MARLBORO, MASS.—Samuel Daoust (appointed permanent Chief)
MONSON, MASS.—Lloyd E. Partelo
NORTH ATTLEBORO, MASS.—Ralph C. Robertson
GRAND RAPIDS, MICH.—Frank H. Burns
KENT COUNTY, MICH.—John B. Heffron
SUMMIT TOWNSHIP, MICH.—O. W. Barton
DAWSON, MICH.—William Pearson
ELLENDALE, MINN.—Russell Olson
PASCAGOULA, MISS.—J. B. Hudson
EL DORADO SPRINGS, MO.—E. V. Pickell
BELGRADE, MONT.—Frank Greecy
ORD, NEB.—George Anderson
GREEN KNOLL, N. J.—Michael Kredovski
GUTTENBERG, N. J.—David Doughy
AMITYVILLE, N. Y.—John S. Robertson
ARDSLEY, N. Y.—August Seitz
BAY SHORE, N. Y.—Frank Helbig
BLUEPOINT, N. Y.—George Pope
BREWSTER, N. Y.—Bernard Foster
BRIGHTON, N. Y.—Howard Galbraith
CANASTOTA, N. Y.—Paul Bona
EAST CLINTON FIRE CO., CLINTON CORNERS, N. Y.—Fred Morris
COHOES, N. Y.—Charles F. Waters
CORAM, N. Y.—George Weber
CROTON-ON-HUDSON, N. Y.—Nicholas Vassallo
EAST GLENVILLE, N. Y.—R. W. Safford
ELMSFORD, N. Y.—John Kranz
FAIRMOUNT, N. Y.—Robert Coe
FAIRPORT, N. Y.—Don Malcolm
FLORAL PARK, N. Y.—Fred A. Muhl
FLORAL PARK CENTRE, N. Y.—Frank Schottler
FORESTVILLE, N. Y.—Clarence Henry
FREEPORT, N. Y.—Frederick Buss
GENESEO, N. Y.—Harold Irwin
GLEN PARK, N. Y.—Gregory Pound
GREENPORT, N. Y.—J. L. Townsend
HASTINGS-ON-HUDSON, N. Y.—Richard McGrath
HEMPSTEAD, N. Y.—Coe Clowes
HEWLETT, N. Y.—Fudie Petrillo
INWOOD, N. Y.—Rodney Boyd
INTERLAKEN, N. Y.—Wilbur Earl
KNAPP CREEK, N. Y.—Richard Nenno
LYNCOURT, N. Y.—Jasper E. Perrigo
MASSAPEQUA, N. Y.—Henry L. Baumann
MODENA, N. Y.—Burton R. Ward
MONTROSE, N. Y.—Joseph Carroll
NEWARK, N. Y.—Oakley Douglas
NYACK, N. Y.—Roy Wanamaker
PATCHOGUE, N. Y.—George Neuhoff
PELHAM MANOR, N. Y.—Arthur Richard Fawcett
CATARACT FIRE DEPARTMENT, PHILADELPHIA, N. Y.—George Henderson

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You'll agree that the extra protection, built-in comfort, and longer wear you get in Midwestern clothing make it well worth while placing your order for scheduling into our production as soon as possible. There is no substitute for quality.

For complete information see your Midwestern Dealer or write factory direct.

Available for immediate delivery, subject to prior sale, all sizes firemen's short and ¾ boots.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Please mention Fire Engineering when writing advertisers

Appointments and Promotions (Continued)

PLEASANTVILLE, N. Y.—Willard Austin
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EPPING, N. D.—Milo Willard
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SAN DIEGO, TEX.—Louis F. Labbe
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FAIR WATER, WIS.—L. W. Frei

Chief "Dan" Tierney Fifty Years a Fireman

Chief Daniel B. Tierney, of Arlington, Mass., celebrated his fiftieth anniversary as a fireman on May 31st.

He joined the department as a substitute call fireman in August, 1896, and became a regular call fireman, May 1, 1897. On May 31, 1897, he was appointed the fourth permanent fireman in the department at the munificent salary of nine dollars per week, no days off and no vacations. His duties included sprinkling the streets in summer and plowing them in the winter.

On January 1, 1922, he was appointed a member of the Board of Fire Engineers and its secretary. On May 1, 1923, he was appointed the first permanent fire chief of the Town of Arlington under the Life Tenure Act. Previous to his appointment there had been two call chiefs. Including Chief Tierney's service to date, those three chiefs have covered the period from 1878 to 1947.

During the Chief's regime and under his supervision, three of the finest fire stations in the country have been built. He was pioneer in the inspections of

Chief Daniel B. Tierney

cellars of all residences in the town. Last December he started the block system of inspections whereby a piece of apparatus equipped with a two-way radio and its full crew inspects every building and occupancy in its district twice a month.

Chief Tierney was actively responsible for one of the most extensive and complete systems of mutual aid in the East. He is nationally known for his service to the International Association of Fire Chiefs, serving as its Secretary-Treasurer since 1940. In 1938 he served as President of that organization.

He has also served as president of the New England Association of Fire Chiefs and the Massachusetts Fire Chiefs' Club.

News of the Manufacturers

(*Concluded from Page* 380)

water in the vortex. Centrifugal force tends to throw the water outward in an ever-increasing circle as the water moves forward from the vortex. This produces finely divided water mist, or fog. It also produces heavier droplets of water across the nozzle pattern. These heavier droplets entrain the fog and carry it with them in the same manner that rain brings cold air from the stratosphere to the earth's surface in hot weather.

Because the center of the fog mass is spinning, it tends to throw outward, pushing the air before it aside while the faster moving center moves forward and spins out.

Television for Fire Stations

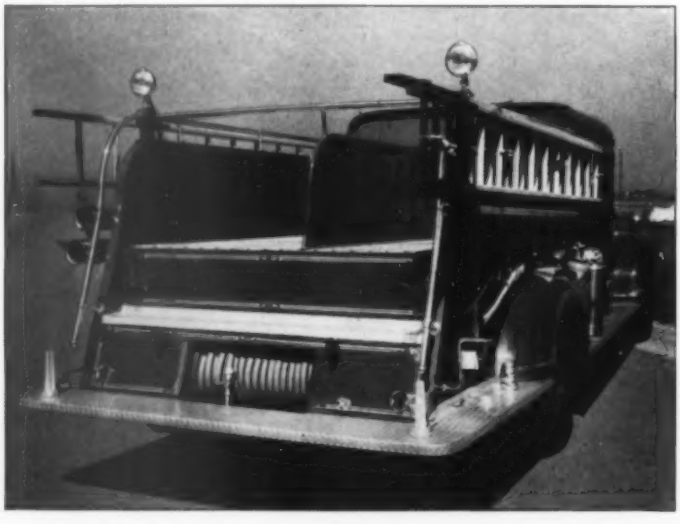
The personnel of many fire houses within 80 miles of cities carrying television broadcasts have struck upon a novel, inexpensive way to watch ball games and fights right in their quarters. Each man in the company chips in a few dollars with which to buy an easy-to-assemble transvision television kit. Because it is a kit, the price is about half of that of a comparable completed set. Only a screw driver and soldering

OREN

COMPLETE UNITS for RURAL and CITY SERVICE

EXTRA WIDE HOSE BODIES • LARGE "L" TYPE BOOSTER TANKS • COMPARTMENT TYPE BODIES • FULLY ENCLOSED PUMPS

BUILT ON COMMERCIAL OR SPECIAL CHASSIS WITH CONVENTIONAL OR LARGE SPECIAL CABS



OREN FIRE APPARATUS CO.
ROANOKE, VIRGINIA

No time to waste!

"Pour it on!" "Keep the pressure up!"

Familiar phrases? Sure! You hear them often. They should remind you of the importance of insisting on dependable fire hose.

Hewitt Fire Hose *is* dependable! You see, it's "Job-Engineered" to remain flexible and easy to handle under the most severe fire-fighting conditions.

It's built to withstand extreme pressures. Quality construction under scientifically controlled conditions assures high burst-resistance . . . minimizes elongation and twist. And special rubber compounds provide long hose life.

Hewitt has been making high-quality fire hose since 1872. Its dependability has been proved many times over in fighting thousands of fires.

So be prepared with *dependable* Hewitt Fire Hose. It's available in all standard sizes and types—suitable for all fire-fighting applications. Write today for full details.

Hewitt Fire Hose

HEWITT RUBBER
DIVISION
HEWITT-ROBINS INCORPORATED
240 KENSINGTON AVENUE, BUFFALO 5, NEW YORK

HEWITT-ROBINS INCORPORATED HR

iron are needed to put it in operation. The kit is distributed by Beacon Television, Inc. of 143 E. 49th St., New York City.

E. N. Day Made President

Ernest N. Day, formerly General Sales Manager of the New Jersey Fire Equipment Corporation, of Dunellen, N. J., was recently elected president of the Company by the Board of Directors. Among his many connections in the business world is his directorship of the First National Bank of Dunellen.

Acme Rubber Appoints Amsdell

The Acme Rubber Manufacturing Company, manufacturers of industrial rubber products in Trenton, N. J., has recently announced the promotion of L. J. Amsdell to the position of Eastern Sales Manager. He will make his headquarters at the Company's New York offices in the Woolworth Building, 233 Broadway.

Stephenson Corporation Enters Resuscitation Field

Announcement has been made of the organization of the Stephenson Corporation of Red Bank, N. J., to make and distribute resuscitation and allied equipment. The new company will be headed by William H. Stephenson, who is well known to the fire profession, having served eight years as northeastern distributor for the E & J Manufacturing Company and six years as director of sales promotion for the J. H. Emerson Company.

William H. Stephenson

The corporation has acquired the Goodner Resuscitator, widely used by fire departments on the Pacific Coast, and will build it with some refinements in several models at Red Bank. Development will be continued at the plant in Glendale, California under the direction of M. Harry Goodner, who nineteen years ago invented America's first automatic, pressure-controlled breathing machine. Mr. Goodner has originated many innovations in this field, his latest being facilities for adjusting the operating pressures and the oxygen-air mixtures to the needs of the patient.

M. Harry Goodner

A feature of the policy of the new company will be a highly perfected program of training in the use of all the equipment it builds. In this it will be ai.led by its Western representative, N. L. Curtis of Glendale, who has been a pioneer in the teaching of resuscitation and life-saving in the West.

Aluminum Alloy Couplings for Fire Hose

All its standard brand cotton rubber-lined municipal fire hose is now being offered with a new type aluminum alloy coupling, a set of which weighs only two pounds, it is announced by The B. F. Goodrich Company, Akron, Ohio.

Known as Type 85, the new lightweight couplings are equipped with the company's Koroseal swivel washers, which furnish a certain and long-wearing seal.

Since the first canvas covered, rubber-lined fire hose was introduced to the Cincinnati fire department in 1870 by Dr. B. F. Goodrich, founder of the

PROVE IT YOURSELF

Send for your . . . Free Sample

Mail coupon for a 6 oz. sample of Linck WW—enough to treat up to 10 gallons of water. Try it as recommended on a mattress fire or some other tough one.

You'll find Linck WW added to water increases its fire fighting effectiveness, reduces danger of re-ignition, reduces need for re-wetting, stretches water supplies.

Full details of the amazing story of "wet" water for easier, more effective fire fighting will be sent to you with your sample, together with full directions for use.

Send for your FREE sample today. Convince yourself that Linck WW makes water "wet," makes fire fighting easier.

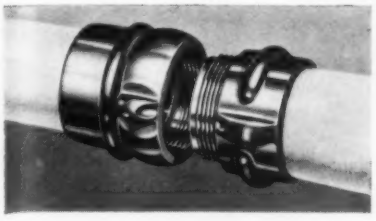
O. E. LINCK CO., INC.
CLIFTON, NEW JERSEY

O. E. LINCK CO., INC.
CLIFTON, N. J. (FE 6-47)

Without obligation, send me free 6 oz. sample of Linck WW, descriptive literature, and directions for use.

Name .....
Fire Department .....
City .....
Our Supply Dealer Is .....
Address .....

company, the company has been one of the leaders in fire hose manufacture and has contributed many improvements to



New Aluminum Alloy Coupling Now Being Offered by The B. F. Goodrich Company for Equipping Its Standard Brand Cotton Rubber-Lined Municipal Fire Hose. A Set of the Couplings Weighs Only Two Pounds

the product. Among these has been decrease in weight, while maintaining burst strength.

New Carrying Case for Acme Gas Masks

To facilitate handling and protect equipment, the Acme Protection Equipment Company, Chicago, has just introduced a new carrying case for their Acme "N" and "FD" Full Vision gas masks.

New Carrying Case for Acme Gas Masks

The new No. AP-611 All Purpose Carrying Case, it is stated, eliminates distortion of the face piece, protects the dead air check valves and prevents damage to lenses during transportation. Also, it enables the user to put the mask into use and replace it in the case more quickly and easily then ever before, it is pointed out.

Further information can be obtained from the Acme Protection Equipment Company, 3037 West Lake Street, Chicago 12, Illinois.

New Portable Demounter

A new tire demounter, known as Presto Model B-1, has been placed on the market by Lee Engineering Co.,

where there's FIRE there's SMOKE

Herman Nelson Portable Ventilator

FOR MANY YEARS a satisfactory, portable "smoke extractor" has been sought by fire departments as an aid in fighting small fires where areas become heavily charged with smoke.

This light-weight, high-powered, portable ventilating fan is easily wheeled or carried from place to place. Its unique, two-way air flow feature permits drawing smoke, dust or gases from an area, or later supplying fresh, cooling air to the spot desired. Equipment includes one 14" diameter by 16' length of specially treated, collapsible canvas duct. Ducts can be attached simultaneously to inlet and discharge sides of fan.

Write for complete information and prices.

THE HERMAN NELSON CORPORATION
MOLINE, ILLINOIS

HOWE Fire Truck Equipment to Meet Every Service
Established 1872
HOWE FIRE APPARATUS COMPANY, 1402 West 22nd Street, Anderson, Indiana

"HAHN" FIRE APPARATUS

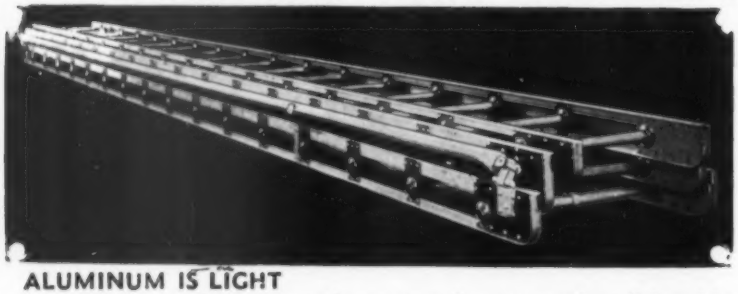
SINCE 1907

FINEST IN THE WORLD * STREAM-LINED * BALANCED CHASSIS * AMPLY POWERED * VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.

HAMBURG, PA.

FIREMEN PREFER . . .
Aluminum FIRE LADDERS



ALUMINUM IS LIGHT

When time is precious and manpower is at a premium, light-weight Aluminum Ladders are your most efficient life-saving and fire-fighting tools for they require fewer firemen to raise and operate them successfully.

ALUMINUM IS STRONG

Available in 1, 2, 3 and 4-section models, every Aluminum Ladder is heavily riveted and constructed of high-tensile-strength Aluminum Alloy. The corrugated rungs are securely fastened with aluminum expansion bushings, with the result that the rungs never become loose or break off.

ALUMINUM IS DURABLE

Practically all of the ALUMINUM FIRE LADDERS purchased since 1936 are still in use today. Being fireproof and rust proof they last longer than other types. Write for Complete Information.

"Original Manufacturers of Aluminum Ladders"

Aluminum Ladder Company

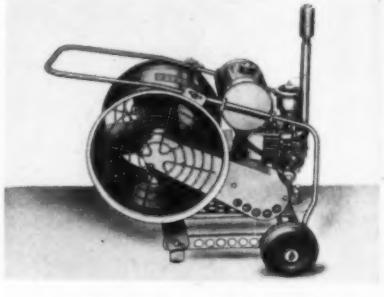
200 Carbis Street
Worthington, Pa.

Pawtucket, R. I. This manually operated unit incorporates the Simplex-Jenny Center-Hole Hydraulic Jack which develops over 60,000 lbs. pressure. The demounter removes the stubborn tire without injury. It is quickly adjustable to demount any size tire from 7.00-15 to 24.00-24 on trucks, busses and heavy vehicles. Construction is entirely of steel and light in weight. The Presto B-1 Demounter is portable—it does not require any source of electricity or air. Complete information may be had by writing the manufacturer.

New Portable Demounter for Tires

New Portable Smoke Exhauster

A new type, high-capacity, light weight, portable ventilator has been developed by The Herman Nelson Corporation, Moline, Ill., to assist firemen in removal of smoke and noxious gases. The unit consists of a high-capacity fan, powered by either a gasoline engine or an electric motor. Mounted on a light weight metal frame equipped with two rubber-tired wheels, it can be easily moved from place to place by one man.



Herman Nelson Portable Smoke Exhauster

Standard equipment includes one 14" diameter by 16' length extensible canvas duct for conveying air to desired point. Two-way air flow permits smoke or gases to be drawn from an area or fresh cooling air to be supplied to the spot desired. Duct is specially treated for flame and moisture resistance. When not in use it can be collapsed into a compact package and fastened with a carrying strap.

Maximum air delivery without duct is 4500 cfm, and with duct, 4000 cfm. Will deliver approximately 90% of rated capacity against 0.5" H_2O static pressure.

Descriptive literature is available. Write The Herman Nelson Corporation, Moline, Ill., for form No. 2636.

Annual Reports Received

Chester County Losses Down

The annual fire report for Chester County, Pa., of County Fire Marshal William J. McInerney, Coatsville, shows 1,043 fires during the last year with total loss of $361,746.

County volunteer companies were in service 1,262 hours, using 520 gallons of chemicals and 69,725 gallons of water. They stretched 135,170 feet of hose, raised 5,167 feet of ladders and traveled 4,980 miles to and from the scene of fires. A total of 10,915 men answered roll calls.

In forty-three instances the county companies responded to emergency calls for help outside the county. Four persons lost their lives due to fire, the report states. Fire Marshal McInerney credits the big reduction in fire loss largely to the efforts of the County Fire Prevention Committee and firemen in general in educating the public on the dangers of fire.

* * *

Puerto Rico Rules and Regulations on Fire Prevention

The Rules and Regulations on Fire Prevention of the Insular Fire Service of Puerto Rico have been issued by the Insular Fire Chief, Paul Gandara, to "serve as safety measures and to prevent fires in those places where the public assembles for religious, amusement, didactic or industrial purposes." The document covers fifty-four pages of text and indicates that Chief Gandara, well known to firemen of the States, has applied the prevention principles and practices of this country to his own area.

* * *

Springfield, Ohio, Annual Report

The 1946 Annual Report of the Springfield, Ohio, Fire Department, Fire Chief Grover L. Frock, is a weighty statistical document. Total fire losses for the year were $239,295.22. The report indicates smoke ejectors were used by Companies 1 and 7 a total of 28 times. It also covers fire and police signaling systems, and traffic operations.

* * *

The "Sentinel" Interesting

The Sentinel, monthly publication of the Factory Insurance Association, of Hartford, Conn., maintains its reputation as one of the most comprehensive, informative little publications in its field. It is edited by William Roy Ford.

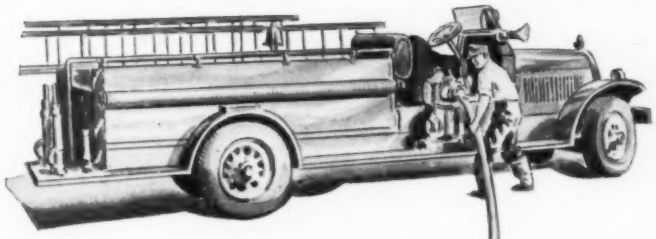
* * *

New Red Cross Publication

"Disaster" is the name of a new publication devoted to relief and prevention and issued by the American National Red Cross, Washington 13, D. C. The first issue, dated March, covered hotel fires. The colorful publication is edited by Eugene F. O'Connor.

A TRUCK PUMPER IS USELESS

If it can't get water to the fire

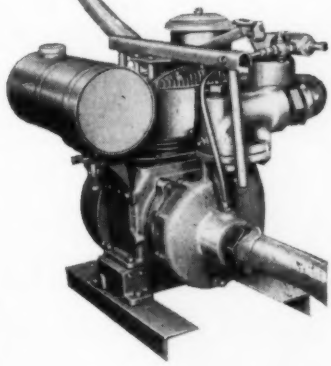


AN enthusiastic owner of a Gorman-Rupp portable Fire Fighting pump wrote to us describing a bad fire in a small Ohio Town. Companies from six adjoining cities were on the job but none had been able to get any water to the fire. Quoting our correspondent:-

"When we arrived six fire companies were already there. We took our little booster pump to the river and then we hooked it up to our big pumper and ran two lines off of that. Did that baby throw water? You should have seen the crowd and heard them around there talking about our little pump."

The Dual Fire Fighter is easily carried by two men – it weighs only 155 pounds. Primed in from 15 to 30 seconds by means of a simple never failing exhaust priming device.
It is equally valuable in fighting fires direct when the big truck pumper is impracticable or unavailable.
It may also be used for dewatering purposes, thus saving the expensive truck pumper possible costly damage. Any damage done to the Dual Fire Fighter is quickly and cheaply repaired with common tools.

THE DUAL FIRE FIGHTER



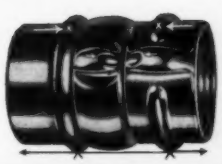
Write for our bulletin FD-3.
Some territory open for live distributors

THE GORMAN-RUPP COMPANY
BOWMAN STREET • MANSFIELD, OHIO

DOUBLE SERVICE
WITH
BI-LATERAL

This is the most pliable hose on the market. BI-LATERAL improved construction will give twice the service over hose made the old way. The BI-LATERAL construction makes it possible to carry 25% more hose on an apparatus—BI-LATERAL hose flattens without injury to rubber lining.
BI-LATERAL comes equipped with improved ROCKER RING forged couplings.

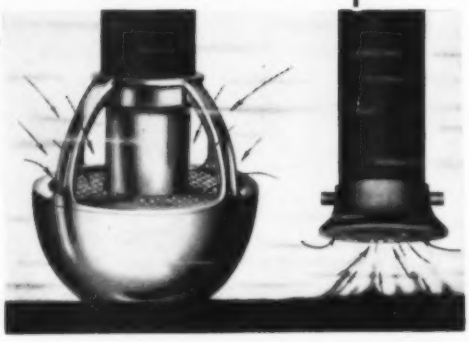
Here's the new DROP-FORGED rocker ring coupling with the swivel protecting feature.



BI-LATERAL FIRE HOSE CO.
20 No. Wacker Drive, Chicago, Ill.

Don't Gamble With Your Fire Pump
If You Draft Water You Need

FILTER-FLO



It's new!

It's different!

the new FILTER-FLO *the old way*

Adds years to fire pump life—Eliminates Clogged Hose Nozzles—Keeps Sand and Gravel out of your pump—Keeps Weeds and Marine Life out of hose lines—Sturdy—Dependable—Attractive—Made of Polished Aluminum. Filters the water twice before it can enter the hose—When in a vertical position it takes water only from the cleanest part of the stream.

SHEREN FIRE EQUIPMENT CO. Mason, Mich.

If your fire equipment dealer cannot supply you order direct. Specify size of suction hose and threads per inch.

FILTER-FLO is the new streamlined liteweight Suction Strainer Filter

485 *Pages Profusely Illustrated*

Be Prepared
to meet
Any Emergency
with

THE FIRE CHIEF'S HANDBOOK

The Greatest Book on Fire Fighting

Written by Fred Shepperd, in collaboration with the Educational Committee of the International Association of Fire Chiefs.

The most complete and authoritative source of practical, helpful data—gives reliable and dependable answers to almost every question that might come up in modern fire fighting methods.

Progressive fire chiefs, interested in keeping themselves abreast of current methods of meeting fire emergencies, need this book. It is the book every fire fighter should own and study.

$4 *Per Copy Postpaid*

CASE-SHEPPERD-MANN PUBLISHING CORP.
24 West 40th Street New York 18, N. Y.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of May, 1947.

Month Ending May 31, 1947

Kalamazoo, Mich.—Foundry and pattern works bldg. of Non-Ferro Founders, Inc., and Keystone Pattern Works, destroyed.

Springfield, Ohio—The McCall Coach Co., Inc. destroyed. The K. & A. Aluminum Foundry, Polamold Research Laboratories and Parker Pattern & Foundry Co. damaged.

Prescott, Ore.—Prescott Lumber Co. destroyed.

Borwick, Pa.—Cleaning plt. of Siles McHenry damaged.

Philadelphia, Pa.—Stone mansion, "Hill View," once home of late T. De Witt Cyler, situated on farm now owned by Mrs. Casper Morris.

York, Pa.—Whse. of Certainteed Products Co. damaged.

Scranton, Pa.—Mid Valley Distillery at Archbald, destroyed.

Coulee Dam, Wash.—West Side Grade School destroyed.

Milwaukee, Wis.—Top floor of four-story and basement store and light mfg. bldg. at 700-794 W. Wisconsin Avenue, damaged.

Sheboygan, Wis.—Four-story brick and frame plt. owned by Pantzer Lumber Co., occupied by Matthew Mainor Woods Products Co.; storage space by Primex Equipment Co., Woods Products Co. of Wisconsin, Huny Mfg. Co., Pantzer Lumber Co., and Puritan Mfg. Co., destroyed.

Fort Pierce, Fla.—Waterfront machine shop and storage bldg. destroyed.

Burkesville, Ky.—Alexander College and Joel Cheek Auditorium, housing city school, destroyed.

Ludington, Mich.—Abrahamson Nerheim lumber yard damaged.

Big Spring, Tex.—Oil furnace at Cosden Petroleum Corp. plt. damaged.

Huntington, W. Va.—Seven-Up Bottling Co. plt. damaged.

Spooner, Wis.—Marcucheck's Style Shop, Spooner Locker Plt., Kaboubek Jewelry Store, Dahl Furniture Store and Mortuary, and Robert Cox Bldg. occupied by Bob's Food Market and restaurant, damaged.

Vernon, Cal.—Plt. of Universal Milling Co. destroyed.

Evansville, Ind.—Peerless Pottery Co. damaged.

Gary, Ind.—Genl. Store Fixture Co. destroyed; adj. Swift & Co. damaged.

Marion, Ohio—Plt. of Marion Plt. Life Fertilizer Co. damaged.

Chattanooga, Tenn.—Temple Court Bldg. damaged.

Taylor, Tex.—Cotton whse. of Joe Gaida, destroyed.

Newberry, S. C.—1,000,000 feet of lumber owned by the Whitener Lumber Co. (near city) destroyed.

St. Catherines, Ont.—Dormitories of Imperial Iron Corp. destroyed.

Montgomery, Ala.—Two sections of Army Quartermaster Supply Depot, also occupied by Veterans' Administration, damaged.

Laurel, Miss.—Bush Dairy damaged.

Meridian, Miss.—Davis Grill and Allbright and Woods Drugstore damaged.

Philadelphia, Pa.—Everglades Cafe destroyed; also Robin Hood Nut Shop on second floor of same bldg.; Blackstone Sportswear Shop, Band Box Flower Shop, Post Cut Rate Drug Store, Kurtz Jewelry Shop, Gyroducing Salon, damaged.

Holden, Mass.—Barn of Orrin Mason destroyed.

Coultervile, Ill.—Coulterville grade-high school damaged.

Eastport, Me.—Mearl Corp Pearl Essence Plant; Holmes Sardine Packing Co.; Grocery whse. of Carroll C. Gardiner; Machias Canning Co.; dwelling of Wendell Holmes; six other dwellings and two wharfs destroyed.

Alvin, Tex.—Southern Whse. Co.'s rice whse. and dryer destroyed.

Logan, W. Va.—Tipple, conveyor and headhouse of Mud Form No. 15 mine of Island Creek Coal Co., destroyed.

Montreal, Que.—Louis A. Sendel Co. damaged.

Essex, Ore.—Feed mill of Essex Farmers, Ltd., destroyed.

Washington, D. C.—J. Frank Kelly Lumber Millwork Co. damaged.

Hutchinson, Kans.—Consolidated Flour Mills Co. destroyed.

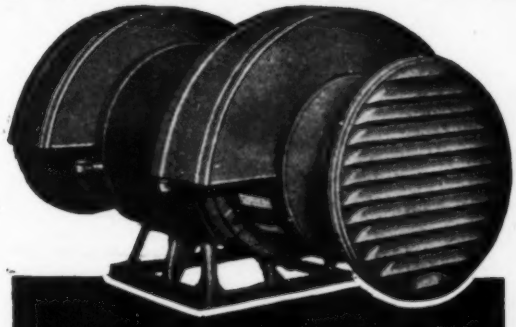
Huntington, W. Va.—Spring Valley Glass Co. plt. damaged.

Edmonton, Alta.—Western Cabinet Mfg. Co., Ltd., and auto blacksmith shop destroyed.

Racine, Wis.—Kilbourn Gardens Inn, Highways 41 and 20, 10 miles west, destroyed. Lightning.

San Francisco, Cal.—Swedish steamer Frej damaged.
Spokane, Wash.—Continental Bakery Co. damaged. Faulty wiring.
Spokane, Wash.—Sportsman Club damaged. Cigarette.
Kalama, Wash.—Kalama cleaners and pressers destroyed. Moawad Bldg. Supply Co. damaged.
Derby, Conn.—Sabo Auto Body Co. damaged.
Oregon City, Ore.—Wardrobe Cleaners, Greyhound Bus Station, Larson creamery, destroyed.
Henderson, Ky.—Delker Bros. Mfg. Co.'s plt. and storage yd. damaged.
Salem, Ohio—Garage of Albert Loudon destroyed. Gasoline explosion.
Pawtucket, R. I.—Business block damaged. Occupants included Narragansett Bowling Alleys and Darlton Theatre. Gas heating furnace exploded.
Pulaski, Va.—Truck, Route 100, Poplar Hill, loaded with rayon cargo of Carter Fabrics Corp., Greensboro, N. C., destroyed.
Hamilton, Ont.—Hamilton Auto Supply plt. damaged.
Staples, Minn.—Sharkey Bldg. occupied by Paxey Bros. hardware store, Olympic cafe and Skaife drug store, damaged.
Spokane, Wash.—Northern Paper Stock Co. destroyed.
Oshawa, Ont.—Plt. of Auto Parts Co. destroyed.
Portland, Ore.—Dwelling of Frank J. Flora destroyed.
Spokane, Wash.—Whse. of Boyd Coulee Grain Co. destroyed.
Cadomin, Alta.—Bldg. occupied by rooming house and coffee bar, damaged.
Craig, Colo.—Vacant theatre bldg. and adj. bldg. occupied by Brinkley Supply and four apts., damaged.
East Hartford, Conn.—Dwelling and four farm bldgs. of Joseph L. Futtner, and barn of Angelo Picano, Silver Lane, damaged.
Fort Fairfield, Me.—Two potato houses of Reed Bros., Inc., and potato houses of George McKenney, Charles Stevens, Packoff & Sprague, C. A. Powers Co., destroyed.
Pioche, Nev.—Fortier Hospital, Leader store whse., Allen's store whse., Miners' Spot Tavern, Overland bar, Pioche Club and Pioche Club Cafe, destroyed.
Atlantic City, N. J.—Soloff's restaurant, on boardwalk, destroyed.
Sedro-Woolley, Wash.—No.2 plt. and shingle mill of Goodyear-Nelson Hardwood Lumber Co. destroyed.
Pickens, W. Va.—Nine bldgs. including Post Office, two filling stations, Been Bros. and M. H. Dodrill general stores, destroyed.
Sherbrooke, Que.—Sherbrooke Hotel damaged.
Phoenix, Ariz.—Bell Laundry and Phoenix Linen and Towel Supply, damaged.
Sumter, S. C.—Junior High School bldg. destroyed.
Appleton, Wis.—No. 3 whse. of Tuttle Press Co. destroyed.
Fresno, Cal.—California Packing Corp. damaged.
Oroville, Cal.—Ehmann olive plt. bldg. damaged.
Pascagoula, Miss.—Main machine shop and whse. of Arnold V. Walker board yard, Singing River, destroyed.
Philadelphia, Pa.—Plt. of Eagle Seat & Tank Co., plumbing fixture plt. damaged.
McMinnville, Tenn.—Doak Lumber Mill destroyed.
Chicago, Ill.—Charles H. Dreiske Coal Co. plt. damaged.
Berkeley, Cal.—Bldg. holding three small shops, damaged.
Scarborough, Me.—Recreation hall, Danish Village, apt. colony, U. S. Route 1, destroyed. One apt. bldg. damaged.
North Vernon, Ill.—Eberts & Bros. flour mill, office bldg., ice plt. and one bldg. of the Miller Lumber Co. destroyed.
Spokane, Wash.—Kent Furniture Exchange destroyed. Explosion.
Jewel, Ore.—Jewell Post Office, General Store, hotel, destroyed.
Manchester, N. H.—School bldg. of State Industrial School destroyed.
Portland, Ore. — Palatial home of Mrs. A. S. Frohman destroyed.
Port Alberne, B. C. — Feed shed and dock of Canadian Pacific Steamship Co. destroyed.
New Milford, Conn.—Dwelling of Myron Squires damaged.
Alturas, Cal.—Business-apt. bldg. damaged.
Louisville, Ky.—J. D. Jennings Co. damaged.
Malden, Mass.—Plant of Devoe-Reynolds paint factory damaged. Spark from machinery.
Thief River Falls, Minn.—Land O'Lakes creamery bldg. and Peterson-Biddick Co. damaged.
Laurel, Miss.—Custom Avenue bldg. occupied by Waukesha Engine & Equipment Co. and Mid-Continent Supply Co. damaged.
Keyport, N. J.—Club 35, a tavern and bowling alley on Route 35, destroyed.
Jackson, Ohio—Two foundry depts. of Crown Pipe and Casting Co. damaged.
Youngstown, Ohio—New plant of Belmont Metal Products Co., Church Hill, two miles north, damaged.

DEPENDABLE



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GENERAL ALARM SIREN
You Can Depend On It ALWAYS

in Silver or in
SIRENS—

STERLING
A NAME YOU CAN DEPEND ON

An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to install and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M."

ALSO . . .
MANUFACTURERS OF A COMPLETE LINE OF APPARATUS SIRENS

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55 Allen Street Rochester, New York

TRADE MARK
MEARLFOAM

Produces
Tough Long Lasting
MECHANICAL
AIR-FOAM

INSENSITIVE
TO
ANY TYPE NOZZLE
ANY TYPE WATER
ANY TYPE WEATHER

Write for descriptive bulletin

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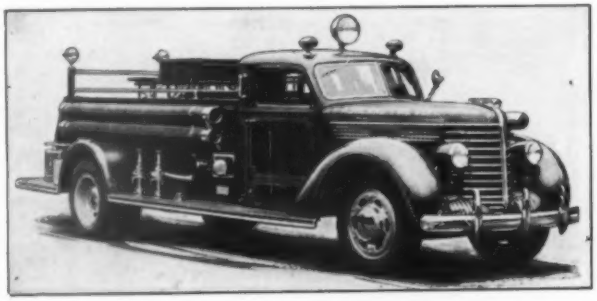
THE MEARL CORPORATION
153 Waverly Place, New York 14, N. Y.

Champion Fire Apparatus



Champion Fire Pumps

NEW 24-PAGE BOOKLET IN COLORS

Write Today For Your Copy

W. S. DARLEY & CO., CHICAGO 12

US UNITED STATES MOTORS CORP. 430 Nebraska St. OSHKOSH, WIS.

Peach Glen, Pa.—Natl. Fruit Products Co., vinegar plant, leveled.
Sultan, Wash.—Sultan sawmill destroyed.
Chicago, Ill.—Shed, yard and office of Chicago Standard Lumber Co., Inc., damaged.
Las Vegas, Nev.—Club cleaners, Webb & Haywood paint shop, cabinet shop of John Franklin and dwelling, destroyed.
Oshkosh, Wis.—Foster-Lothman Mill lumber shed destroyed.
Tonawanda, N. Y.—Lumber whse. of Knoll Mfg. Co., window and door casement mfrs., damaged. Defective wiring.
Columbus, Ohio—Harmony Music Shop and Modern Youth Shoe Shop destroyed. Moskins Credit Clothing Store damaged. Adj. Shapiro Optical Club damaged.
Eureka, Cal.—Charles Symes mill, near Bayside, destroyed.
The Dallas, Ore.—Maupin grain whse. and elevator destroyed.
Loomis, Cal.—Fruit whse. of Pacific Fruit Exchange and fruit whse. of California Fruit Exchange, damaged.
Naugatuck, Conn.—Nitro-benzol unit of United States Rubber Co., damaged.
Fort Fairfield, Mo.—Business-apt. bldg. owned by Sam Estcovitz; business-apt. bldg. owned by Fort Fairfield Power & Light Co., and a dwelling.
Grand Rapids, Mich.—Masonic Temple bldg. damaged.
Allentown, Pa.—Administration bldg. at Muhlenberg College destroyed.
Winnipeg, Man.—Weidman Bros. wholesale grocery damaged.
Medford, Ore.—Two whses., Ben Anderson genl. store, Jacksonville, destroyed.
North Little Rock, Ark.—Elks Club destroyed.
Chicago, Ill.—F. W. Woolworth Co. damaged.
Tonawanda, N. Y.—Lumber whse., Knowell Mfg. Co., destroyed.
Burlington, N. C.—Green Gables Club, eating place, Highway 54, destroyed.
Childs, Pa.—Dwellings of Joseph Cibula and Arch Fife destroyed; dwellings of Rexford Oakley and Patrick Mula damaged.
Harrisburg, Pa.—Whse. of Rubin Bros. Waste Co. and adj. junk yard of Capitol Iron and Steel Co. damaged. Sparks from welding machine.
Homestead, Pa.—Store of Levine Hardware Co. destroyed.
Goose Creek, Tex.—White Star Laundry damaged.
Grafton, W. Va.—Theatre and six stores destroyed.
Elgin, Ore.—Masonic lodge hall, apts., radio store and garage destroyed. Explosion.
Ely, Minn.—Business bldg. occupied by Stanley Malivetz, dentist; O. E. Snyker, physician; E. C. Bolitho, engineer; Attorney Arthur Nelson; Kitty Vastahl, beautician; James drug store; clothing firm of John Tauzell; grocery store of John Beckovitz and branch of Troy Laundry damaged.
Eugene, Ore.—Four corners business district, including hardware, restaurant, grocery store and drug store, destroyed.

World Wide Fire News

By Roi B. Woolley

Helicopter Fire-Fighters

A further step—or further flight—forward in fighting forest fires has been developed by the U. S. Forest Service and the Army. It includes the use of "fire-troopers" descending from the skies by helicopter ladders and is an advance over the heretofore ultra-modern use of parachutist firemen.

David Godwin, Asst. Chief of the Forest Service, is said to be responsible for the latest innovation. It was he who decided that dropping foreign fire-fighters by chute needed modernization. The fighters were often stranded for weeks in thick woody areas. So Godwin proposed the use of helicopters, to drop men by rope ladders near the scene, then pick them up after the fire was out.

* * *

Russia's Forest Fire Fighters to Fly

It is reported by Tass, Russian news agency, that Russia's vast forests of 292 million acres, equal to one-third of Europe, will be patrolled in 1948 by the growing fire-fighting service.

The young organization last year discovered and extinguished 2,000 forest fires, it is claimed, which is about the total figure handled with dispatch by each of a number of our States.

* * *

Swelling Rice Threatens Ship After Fire

The Swedish steamship Frej, formerly the American freighter Stanley A. Griffiths, suffered a "flashback" fire while its boiler was being fired when the freighter was off Pier 41, in San Francisco, awaiting repair of a rudder before departing for Gothenburg. From the engine room the fire spread to her cabins and superstructure and was not brought under control until midnight by San Francisco fire fighters and the Coast Guard. The 1,976-ton ship settled and was grounded in over twenty feet of water as a result of the tons of water poured into the burning holds.

After tugs had pulled the flooded ship from the San Francisco Bay shoals, her cargo of 5,000 tons of rice, swelling steadily in her water-soaked interior, threatened to burst her seams.

* * *

New York Alert for Mustard Gas

New York harbor was alerted when it was reported a number of vials of deadly mustard gas were believed floating in harbor waters. Police, waterfront firemen and Harbor Squads were notified to be on the lookout for the glass cylinders inside cardboard casings and warned to handle them carefully if found. Contact might cause severe burns, it was said.

The vials are a type used by the Army for chemical warfare demonstrations. The cylinders were reported found previously by a group of boys playing near Fort Wadsworth in Staten Island. Of the dozen the boys found, eight were thrown into the water. One container broke open and burned a 12-year-old boy, but not realizing the seriousness of his burn, he failed to notify his family until some time later when his arm became badly swollen.

Detectives, hearing the boys' story, located two full and two empty containers at the at the spot where the lads were playing. The others had evidently drifted into the harbor on the tide.

How the gas containers happened to be lying there is a mystery. Army authorities at Fort Wadsworth said no mustard gas was stored there. The gas, used during World War I, is considered one of the deadliest of all gases. The oily liquid clings to low, damp places and retains its potency indefinitely. When it comes in contact with the flesh, it inflicts severe and penetrating burns.

* * *

Hot Off the Foreign News Ticker

Damage to the luxury liner Monarch of Bermuda caused by the fire on March 24 exceeded $5,600,000, the owners revealed. . . . Ivor A. Worth of Bristol, England, admitted to having set fire to Bristol Synagogue on Jan. 2 last as a retaliatory gesture against Jewish terrorists in Palestine. . . . Final figures on the total dead resulting from the Berlin night club flash fire of earlier in the year have been set at 104. . . . Two dwellings, including a converted schoolhouse, home of a triple amputee veteran, were damaged and several persons injured as a charge of dynamite exploded in a shanty near Minersville, Pa. The blast shook Minersville and Llewellyn, two miles distant, was heard for over

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. . . easy-fold construction

Yes—Quaker Fire Hose, with easy-fold construction, is highly flexible, packs "flat as a pancake," provides rugged, long-lasting service.

Strong, "pressure-proof" jackets resist constant abrasion and severe use. Resilient rubber tube defies drying-out, is non-acid forming, remains flexible for easy folding and handling.

For top security when fire strikes, Quaker Modern Municipal Fire Hose assures unfailing service for large cities, small communities, industrial plants.

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QUAKER PACIFIC RUBBER COMPANY • SAN FRANCISCO 5 • LOS ANGELES

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FIRE ALARM, TRAFFIC & RAILWAY EQUIPMENT

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Standard for over 67 years

THE BEST BADGE MONEY CAN BUY

BRAXMAR BADGES STANDARD WITH FIREMEN FOR 67 YEARS—WE CAN NOW SUPPLY NICKEL AND CHROME.

If you have not yet received our latest circular. We'll be glad to mail one on request.

BRAXMAR BADGES

JOHN O. VEIT
President

C. G. BRAXMAR CO., Inc.
242 W. 55th Street, New York 19, N. Y.

fifteen miles. . . . The 10,296-ton tanker S.S. Royal Oak, carrying 50,000 barrels of gasoline and diesel oil caught fire off the coast of Peru and was reported abandoned by her crew of forty. . . . Fire, caused by faulty wiring, in April swept a National Bureau of Standards building in Washington, D. C., containing important German war equipment. It left the test material undamaged.

* * *

Rome Film Fire Kills 26

At least twenty-six were killed and others hospitalized when a flash fire ravaged the five-story headquarters of the Minerva Film Company in Rome, Italy. It was the worst disaster in Rome except for wartime bombing since 1938.

Firemen reported the fire apparently started in stocks of raw and finished film stored in the building. There were two severe explosions a few seconds apart. The staircase, only means of escape, was instantly filled with suffocating smoke. In a few minutes flames 300 feet high leaped from the roof. At 10:00 P.M., more than three hours after the first explosion, firemen were still recovering charred bodies. Three girls who had clung to window ledges were forced by flames to drop from the top floor.

Minerva Films produced "Open City," Italy's most successful picture, now in its second year in New York.

Classified Advertisements

Rates are inexpensive. "For Sale," "Proposal" and "Wanted" advertising, $5 per inch insertion (10% discount allowed for three or more consecutive insertions). FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

Fire Equipment—Unused Gov't Surplus

Extinguishers, Couplings, Nozzles, Alarms. Top Brands, A-1 condition, at bargain prices.
15 lbs. CO-2 Ext., Charged, Squeeze Grip, $25.
2½ inch Couplings, Sol. Brass, N.S.T., $2.50 per pr.
1½ inch Couplings, Sol. Brass, I.P.T., $1.25 per pr.
1½ inch caps, brass, with chain, all threads, 25c.
8 inch, Electric Alarm Bell, Heavy, 110 A.C., $6.
2½ inch Nozzles, 15 inch, Brass, N.S.T. $2.25.
Siamese Valves, 2½" N.S.T. to pair 1½", Brass, $7.
Full Asbestos Fire Suits, Complete Coverage, $5.
F.O.B. and C.O.D.
HALPRIN SUPPLY CO.
140 E. 2nd St., Los Angeles 12, Calif.

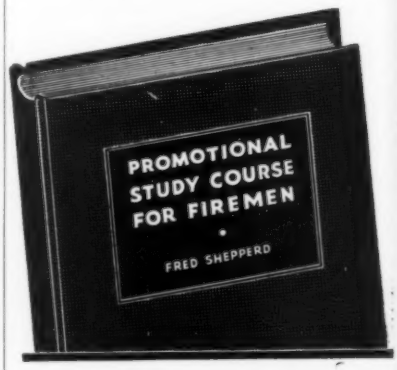
WANTED
SALESMEN AND JOBBERS

To cash in by selling our large stock of unused War Surplus 3½ Gal. Wheeled Carbon-Tet. Extinguishers made by leading manufacturers—4800 available at fraction of regular price. Immediate delivery. Write or phone: Acme Equipment Co., Inc., Chicago 6, Illinois, 126-28 So. Clinton Street, Andover 3430.

FOR SALE

Fire hose in 50 ft. lengths, 1½" double jacket cotton rubber lined with brass couplings, standard pipe thread only $12.50 per length; 400# tested; 1½" single jacket $11.50 per length; 2½" single jacket $21.00 per length. Navy surplus stock. Top quality brands. Goodwear Rubber Co., P. O. Box 6849, Baltimore, Maryland, Zone 4.

A Bible of Instruction



- For the Chief who wants to train his men —
- For the ambitious Fire Fighter studying for promotion —

PROMOTIONAL STUDY COURSE FOR FIREMEN

By Fred Shepperd, B.Sc., M.E.

Published in response to numerous requests from fire department officers and men working for advancement, this book embraces the famous "Promotional Study Course" which ran serially in FIRE ENGINEERING and proved to be so tremendously popular. Covering in chapter lessons most of the important phases of fire protection promotional study—mainly in questions and answers form—all of it in the concise style generally used and preferred by civil service examiners.

To fire chiefs and other officials responsible for preparing examinations, this book will be found most helpful. And it is a mighty good reason, too, why fire officers and men should find it of estimable value in studying for advancement.

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24 W. 40th St., New York 18, N. Y.

Classified Advertisements

FOR SALE

Six (6) 20 foot lengths 6" diameter Buffalo brand smooth bore fire department hard suction hose, each length coupled with 6" expansion ring polished brass, long handle female, and pin lug male couplings, threaded 6.975". OD of male x 4 threads per inch, .010" flat at top. 1/6" shake for female and male couplings. This is for standard Buffalo Fire Appliance Corp. thread, which is used on pumpers used by that company. This is brand new hard suction hose, and is still in its original casing. Sale price, $250.00 F.O.B. Niagara Falls, N. Y. Chief Engr., J. H. O'Neill, Bureau of Fire, Niagara Falls, N. Y.

FOR SALE

Siren Division of old concern for sale reasonable. Nationwide customer list, equipment and good will. Write American Machine & Die Co., 78 State St., St. Paul, Minn.

FOR SALE

Fire Hose delivery from stock any quantity. Can furnish any type brass fittings. 1½" single jacket 27¢ per ft., 1½" double jacket 49¢ per ft., 2½" single jacket 46¢ per ft., 2½" double jacket 89¢ per ft. Towson Hose & Rubber Co., 104 West Joppa Road, Baltimore 4, Maryland.

FOR SALE

Closing out entire stock of new and used extinguishers, vehicle brackets, CO2 Recharging unit (400 lb. Dry Ice Converter). Small orders accepted. Write for complete information. Thomas Sales Company, 2462 Grand Ave., Dept. S., Kansas City 8, Missouri.

WANTED

Fire Equipment Dealers to sell Morning Pride protected rubber firecoats, fire pants, fire mitts and fire suspenders.

Write today Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

WANTED
SALESMEN AND JOBBERS

To cash in by selling our large stock of unused War Surplus 15 lb. CO_2 Extinguishers made by leading manufacturers—5,000 available at fraction of regular price. Immediate delivery. Write or Phone: Acme Equipment Co., Inc., Chicago 6, Illinois, 126-28 So. Clinton Street, Andover 3430.

FOR SALE

FIRE HOSE in 50 ft. lengths, 1½ Inch, double jacket, cotton and rubber lined, with brass couplings. Standard Pipe thread. Top quality brands. 400 lbs. tested. Navy Surplus. Only $12.50 per length. Halprin Supply Co., 140 E. 2nd St., Los Angeles 12, Calif.

WANTED

Distributors wanted for fire apparatus sales by well known Mid-West Manufacturer—Sales help furnished. Address Box 29, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, New York.

"CENTRAL" HAS A RECORD FOR DEPENDABILITY

Central 500-Gallon Pumper Mounted on 1½-2 Ton Chassis

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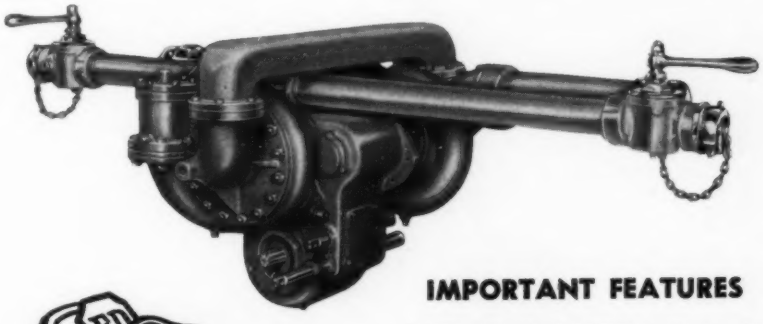
— Duplex-Multistage, Centrifugal, Midship Mounted —



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1. First Duplex-Multistage Pump developed for fire-fighting purposes. 2. The only fire pump with THREE distinct operating characteristics — other two stage pumps have only two operating characteristics. 3. Two independent pumps — breakdown of one pump still leaves one in service. 4. Heavy construction for high pressure "fog" service.

AMERICAN-MARSH
PUMPS, INCORPORATED
BATTLE CREEK, MICHIGAN

SAVE LIVES!

GET AT A FIRE FAST!

SPEED RESCUE WORK

with this amazing hi-speed

SAW GUN

QUICKLY CUTS THRU

ALL METALS

Stainless or Monel

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Other Materials

An Indispensable Fire-Fighting Tool

The Saw-Gun is an amazingly efficient Portable Power Saw that speedily cuts thru all metals, wood and other materials. Firemen equipped with this essential rescue tool can get at a fire or entrapped persons QUICKLY! Cuts rapidly thru heavy gauge steel. No need to waste precious time removing iron gratings, or other obstructions . . . cut them out of the way with the Saw-Gun! Saves time! Saves lives!

Easily attaches to any electric or air-drill, or flexible shaft. Uses ordinary hack saw blade for cutting. Very simple to operate.

Modern fire-fighters require modern tools. The Saw-Gun will prove an extremely valuable addition to your present equipment. Get all the details NOW!

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W. H. HOWLAND

2533 East 73rd Street

Chicago 49, Illinois

Convention Dates

June 18—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Napoleon, Ohio. Secretary, Napoleon Fire Department, Earl Campbell.

June 18-20—MARYLAND STATE FIREMEN'S ASSOCIATION. Annual meeting, Frostburg, Md. Secretary, B. R. Benson, 303 Bosley Avenue, Towson 4, Md.

June 19-22—BERKS COUNTY FIREMEN'S ASSOCIATION TRAINING FORUM. Annual meeting. Secretary (Educational Committee), A. E. Baer, Jr., 213 S. 3rd Avenue, West Reading, Pa.

June 24-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary John W. O'Hearn, 22 Mt. Auburn Street, Watertown, Mass.

June 25—CENTRAL - WESTERN FIREMEN'S ASSOCIATION. Annual meeting, St. Mary's, Ohio. Secretary, Roger O'Donnell, Covington Ohio.

June 26-28—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Mechanicville, N. Y. Secretary, Chief Henry F. Drake, Clinton Corners, N. Y.

July 20-25—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, Professor H. R. Brayton, Department of Chemistry, Texas A. & M. College, College Station, Tex.

July 28-30—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual meeting, Stevens Point, Wis. Secretary, Chief Arthur J. Rahn, Two Rivers, Wis.

July 28-31—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, West Virginia University, Morgantown, W. Va. R. E. Hanna, Jr., Fire Service Extension School, School of Mines, University of West Virginia, Morgantown.

July 28 - Aug. 1—PENNSYLVANIA FIRE SCHOOL. Ninth annual meeting, Lewistown, Pa. Director, Edgar A. Spotz, Adviser, Fire Service Training, Public Service Institute, Harrisburg, Pa.

Aug. 4-5—WISCONSIN PAID FIREMEN'S ASSOCIATION. Annual meeting, LaCrosse, Wisconsin. Secretary, John Kromel, 4042 Sheridan Road, Kenosha, Wis.

Aug. 8-10—OHIO STATE FREMEN'S ASSOCIATION. Annual meeting, Hotel Carter, Cleveland, Ohio. Secretary, Chief M. W. Gifford, 5105 Market Street, Youngstown 5, Ohio.

Aug. 12-15—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, London, Ont. Secretary-Treasurer, Chief Allan H. Clark, Lakefield, Ont.

Aug. 16—BALTIMORE COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual convention, Lutherville, Md. Secretary, W. A. Chenowith, Milford Road, Pikesville 8, Md.

Aug. 18—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Pennsylvania, New York, N. Y. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

Aug. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Pennsylvania, New York, N. Y. Secretary, Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Aug. 19-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Diamond Jubilee Convention, Catskill, N. Y. Convention Secretary, Donald D. Haines, 153 Broad Street, Catskill, N. Y.

Aug. 28-30—WEST VIRGINIA FIREMEN'S ASSOCIATION. Annual meeting, Charles Town, W. Va. Secretary, J. D. Brehany, Ridgeley, W. Va.

Aug. 28-30 (tentative)—CONNECTICUT FIREMEN'S ASSOCIATION. Annual meet., Naugatuck, Conn. Secretary, John Moehring, 56 Tom's Road, Stamford, Conn.

Sept.—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual convention and tournament, Chaumont, N. Y. Secretary, Jack Farrell, 513 Factory St., Dexter, N. Y.

Sept. 1-5—WESTERN PENNSYLVANIA FIREMEN'S TRAINING INSTITUTE. Annual meeting. State Teachers College, California, Pa. Secretary, Henry Neill, Box 83, Vestaburg, Pa.

Sept. 2-4—KENTUCKY FIREMEN'S ASSOCIATION. Annual meeting, Hazard, Ky. Secretary, Captain V. A. Beam, 818 Sutcliffe Avenue, Louisville, Ky.

Sept. 22-25—BUILDING OFFICIALS CONFERENCE OF AMERICA, INC. Annual meeting, Columbus, Ohio. Treasurer, Arthur N. Rutherford, Box 231, West Hartford, Conn.

Sept. 23-26—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual meeting, Hoberg's, Cal. Secretary, James D. Young, 257 Robertson Boulevard, Beverly Hills, Cal.

Sept. 29-Oct. 2—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Grand Rapids, Mich. Secretary, Irvin Shulsinger, 8 East 41st Street, New York 17, N. Y.

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Manufacturers of uniforms for over 50 years

RUSSELL UNIFORM CO.

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QUESTIONS and ANSWERS for LIEUTENANT and CAPTAIN

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Newest Enlarged Edition

A 310-page book, fully illustrated, by Geo. J. Kuss, former Deputy Chief, New York Fire Department, and Fred Shepperd, Editorial Director of FIRE ENGINEERING.

Contains questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers.

Includes chapter on Report Writing, How to Answer Examination Questions, Chemistry Examination Questions, Fire Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

If you are studying for a promotional examination, you need this book; if you are not, it will nevertheless give you a vast amount of valuable information on up-to-date fire fighting methods.

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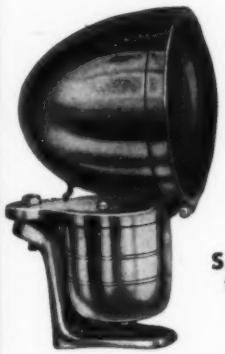
FOR EVERY EMERGENCY
CLEAR YOUR WAY
Flash'N'Wag
(Patents and rights protected)
WIGWAG RED HEAD
COMBINATION
FLASHING AND OSCILLATING
RED BEAM 1,000 FT. AHEAD



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QUIETER
FASTER
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"MASTER-LIGHT MAKERS"
200 MASTER-LIGHT BLDG.
BOSTON 45, MASS.

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Firemen's Boots

TOP NOTCH SIREN
BEACON FALLS, CONN.
"Since 1926"

The Name of Dependability. Assuring the Firemen; Safety, Comfort and Wear in Boots with 19 outstanding features.

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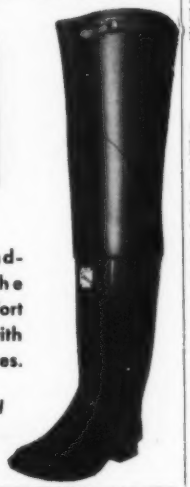


BEACON FALLS
RUBBER FOOTWEAR
BEACON FALLS, CONNECTICUT

Convention Dates

Oct. 7-9—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual meeting, Lancaster, Pa. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

Oct. 23-25—OHIO FIRE CHIEFS ASSOCIATION. Annual meeting, Lima, Ohio. Secretary, William H. Rosche, Asst. Chief, Fire Department, Canton 2, Ohio.

President's Conference Plans Activities

Plans for putting the recommendations of the President's Conference on Fire Prevention into effect in States and communities throughout the country were drawn up on May 24 by a committee appointed by the general chairman of the Conference, Major General Philip B. Fleming, Federal Works Administrator.

W. E. Reynolds, Commissioner of the Public Buildings Administration of the Federal Works Agency, has been named chairman of the Continuing Committee, which is composed of representatives of the leading organizations interested in fire safety.

The Continuing Committee approved the appointment of an executive committee of five members under the chairmanship of W. Walter Williams of Seattle, Washington, who also serves as chairman of the Committee on Organized Public Support of the Conference.

The executive committee will be responsible for assisting in the organization of fire safety committees and conferences in each of the 48 States and in local communities.

Other subcommittees were appointed to supervise specialized activities in connection with fire prevention education, laws and law enforcement, building construction, fire-fighting services and research.

The President's Conference on Fire Prevention was held in Washington May 6, 7 and 8 with an attendance of more than 2,000 public officials and representatives of business, civic, service, labor, farm, women's groups and other interested organizations.

Inspection Form for Hotels

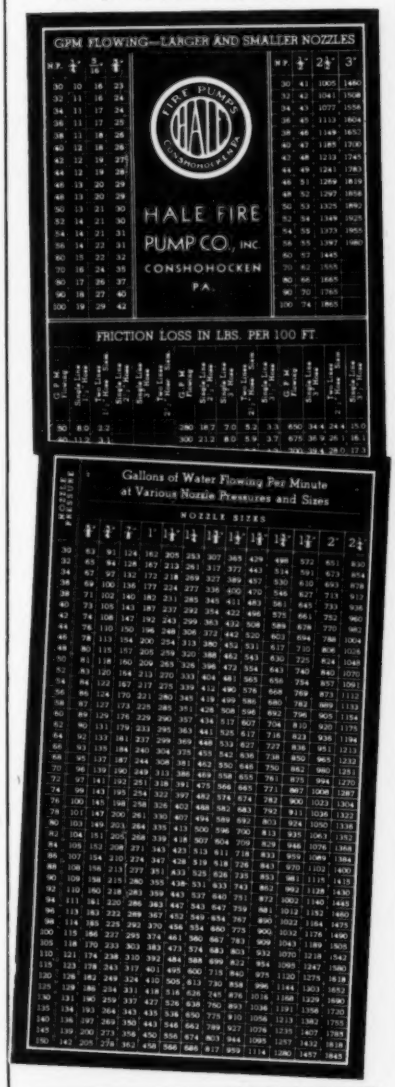
In response to a demand for greater fire safety in hotels and apartment houses, the National Board of Fire Underwriters has issued a self inspection form. The self inspection blank furnishes a practical procedure for the detection of fire hazards and hazards to human life in hotels and enables management, fire departments, and building inspectors to determine corrective measures.

In issuing this hotel inspection form, W. E. Mallalieu, general manager of the National Board, recommended that "An inspection be made at least once each month by the chief engineer or other responsible member of the operating staff." Mr. Mallalieu further pointed out that it would be of mutual advantage if the local fire chief or the officer in charge of the local fire prevention bureau of the fire department could accompany the chief engineer when inspections are made.

Copies are available to hotel managers and operators, fire departments and insurance organizations by writing to the National Board of Fire Underwriters, 85 John Street, New York 7, N. Y.

A USEFUL CARD FOR ALL FIREMEN

Ad reprinted from June, 1945, Issue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The Round Table

(*Continued from page 379*)

was taken back to the Juvenile Court and although his father asked to have him probated, the boy was sent to the Institute for the Feeble Minded, Columbus, Ohio, on March 26, 1947.

W. G. Lutkey, Chief, Oakland, Cal.: Our records show that sixty-nine fires were caused by children playing with matches and fire during 1946, with a loss of $15,020, and seven in January and February of this year, with a loss of $310.

With the exception of six fires, the loss on each fire was kept below $1,000.00. These are as follows:

Boys smoking in January, 1946, caused $2500 damaged to a dwelling.

In April the probable cause of a $3,100 fire in a school portable building was children.

Again in April, a five-year-old boy set his parents' dwelling on fire to the extent of $2,600.

In June, children set a dwelling on fire by playing with matches, damaging it to the extent of $1,500.

In November, a $2,000 dwelling fire was caused by children playing with matches.

In December, there was a $1,100 fire in a garage, and we suspect the cause to be the owner's ten-year-old son.

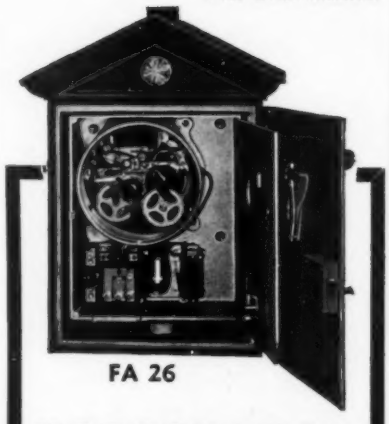
In March of this year (not included in the above) we had a very serious fire in an unused mill building with damage close to $15,000. Two boys, ages 13 and 16 years, respectively, were hunting pigeons and smoking in this building and apparently dropped matches or lighted cigarettes in the sawdust bin which was partly filled with old sawdust. This fire smouldered for several hours, breaking out in the early morning hours and practically destroying the building. The boys admitted being in the building and having matches and cigars and cigarettes, but denied any intention of setting a fire or doing any damage. We believe, considering all the circumstances, that they are telling the truth.

I believe the basic cause for fires being set by juveniles is lack of proper supervision and discipline by parents and guardians.

To correct this dangerous development of juvenile delinquency I suggest a program to interest the parents and have them realize their responsibility to the community as well as to the children, and have them discipline the children, and teach the children to respect authority, and, if necessary, penalize the parents for the unlawful acts of their children.

Commencing January 7, 1947, we had a series of incendiary fires in one of our public schools, located at 920 Campbell Street. This school building is of masonry construction. The dates and times of the the fires were:

Jan. 7, 1947, 10:30 A.M.—boys lavatory, main building
Jan. 7, 1947, 12:30 P.M.—boiler room
Jan. 8, 1947, 12:15 P.M.—boiler room
Jan. 21, 1947, 9:05 A.M.—shop
Jan. 21, 1947, 9:15 A.M.—boys room, Home Economic Building
Jan. 21, 1947, 12:05 P.M.—boys room, main building
Jan. 22, 1947, 9:55 A.M.—boys room, Home Economic Building



FA 26

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These fires were reported to the Fire Marshal and the Arson Squad started to work. We knew from the type of fires that they were set by some of the students in the school. Police Officer, L. D. Smith, of the Oakland Police Department, received the first tip in reference to the fires. One of the teachers heard a boy make a remark about the fires. She did not know the boy's name, but he was riding a red bicycle. Inspector Fred Realy of the Fire Marshal's Office was stationed at a convenient location so that he could observe the actions of the various students around where the fires were set, and they could not see him. This undercover work was kept up for several days. Inspector Realy and Officer Smith rounded up twenty likely suspects, and out of the twenty suspects seven boys were arrested and placed in the Detention Home. Fire Marshal Fred Carlson and Inspector Realy and Officer L. D. Smith interviewed these suspects at the Detention Home. They worked for several days talking to these boys before they got the truth from them, and after obtaining the truth about the fires, three boys admitted responsibility for the fires. They ranged in age from thirteen to fifteen years. Their reason for setting these fires was that they did not like the school. All the boys were interrogated by the officers and all stated that even if they did not have anything to do with setting the fires they all expressed a desire to see the school burn. The fires were set with kerosene and sawdust and with paper, and matches were used to ignite the inflammable substance. All of these boys were committed to the Youth Authority who in turn will fix their sentence. One boy, in particular, has been committed to the Reform School.

The fires, altogether, did about thirty-five to forty dollars damage to the building.

Barney J. Houston, Chief, Cincinnati, Ohio: We have had eleven fires during the period from January, 1946 to date. One of these caused a $7,500 loss and took one life.

I believe lack of supervision by parents is the cause of juvenile fire setting in a number of instances.

These parents should be cited in court for aiding and abetting juvenile delinquency.

One interesting case developed when arson investigators from the Fire Department investigated a complaint from a public school principal that he had found a trail of burned matches in the building when it was opened in the morning.

The investigators found other evidence of maliciousness in the school building and after considerable questioning, narrowed the suspect list to two boys, 10 and 11 years old. The boys finally admitted breaking into the school and playing with matches. The investigators, remembering a fire in a church about a month previous in which the cause of fire was listed as unidentified children playing with fire, and the church being in the vicinity of the school, led them to believe that the same two boys were responsible for the church fire. The boys admitted setting the church fire after considerable questioning and then as the investigators went on, the

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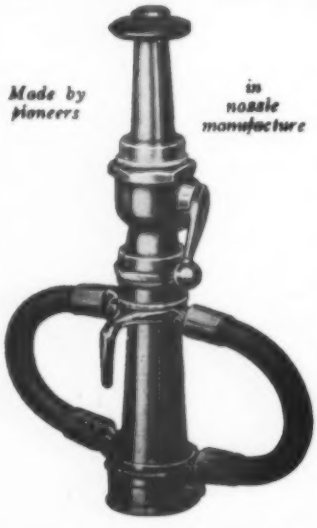

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boys, each trying to blame the other, became so involved, that other fires began to be mentioned. In all, eleven fires were admitted to including a storage house fire that the investigators had been working on, knowing that children had caused it.

The boys and their parents were cited to Juvenile Court, Psychiatric tests were made and the results of the tests determined the action of the Court which disposed of the case in a manner satisfactory to the Fire Department.

John H. Krusenklaus, Chief, Louisville, Ky.: We have experienced six cases of juvenile fire setting from January, 1946, to date. One of these fires caused a loss of $85,000.

I believe the causes of juvenile fire setting are lack of proper recreation facilities and planning which brings about an urge for excitement; also, in many instances, improper supervision and guidance on the part of parents.

It is my opinion that there should be broader and more extensive training programs in the home and school relative to the resultant effects of fires and sound planning of recreation. Also, legislative measures should be formulated which would place the burden of responsibility for incendiary actions of the children upon their parents.

At 11 P.M. on March 16, 1946, a three alarm fire occurred at the Nussbaum Company. The fire was set by a twelve-year-old boy who had been reprimanded a few days before by company officials for throwing rocks through the property windows.

The six-story warehouse and its contents were destroyed as a result of this fire. And in addition, three firemen were injured while fighting it.

Robert L. Woolard, Chief, Norfolk, Va.: We have experienced no cases of juvenile fire setting other than grass fires. Extent of the damage has been small, consisting of fences and frame garages.

I believe the fault rests squarely upon the parents of juveniles in that they have neglected them.

Some years back our Department was confronted with the problem of a juvenile setting fire to paper boxes in the rear of different business establishments in mercantile districts. This boy was apprehended and on investigation it was found that his mother was dead and that his father was not interested in his child as far as education was concerned. He had received no training whatsoever at home. As a result the boy was placed in a state institution.

In conclusion I would say that the problem of juvenile fire setting can be solved through proper training by parents at home and through the interest of parents in educating their children in public schools. I also believe that a year round fire prevention program should be carried on in public schools, civic clubs, press and radio.

Joseph A. Kirby, Chief, Dayton, Ohio: For the first three months this year we have had twelve cases of juvenile fire setting. For the same period last year we had twenty-three.

I believe the major cause of juvenile fire setting is lack of supervision of the parents. In a number of cases both parents are working and the children are left to roam at will.

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We have been contacting parent-teacher organizations in the schools and have given out general publicity in an effort to correct this dangerous development.

We had one case in which a boy, aged 18, indicted for arson at the time of his arrest, admitted seven dwelling fires. He admits having been attracted by fires since he was a child, and at 14 years of age was suspected of setting fires. Insufficient evidence was obtained at the time to hold him. At five years of age he set fire to his home.

The boy admits peeping in windows to watch women dressing or disrobing and frequently on entering homes took articles of women's underclothing.

Damage resulting from the fires he set, and is charged with, amounts to around $5,000. At this writing the case has not come to trial, but conviction is believed assured.

John F. Collins, Chief, Cambridge, Mass.: We have had fifteen fires set by juveniles from January, 1946, to date. Estimated losses were $9,300.

The basic cause of juvenile fire setting, in my opinion, is poor home training and lack of discipline.

To offset this problem, I believe better educational and recreational facilities should be made available in the communities.

Allie A. Feldman, Chief, Denver, Colo.: We have our usual number of juvenile fire settings, mostly involving weeds, sheds, and the like.

There were no major fire losses resulting from such set fire during the past year.

Pranks and carelessness are the greatest contributing factors in these fires.

Continuance of school educational programs, I believe to be the best correction effort to this difficulty.

Stanley W. Doughty, Chief, McKeesport, Pa.: We had one fire on May 23, 1946 that we know was set by a juvenile. It did damage of $1,000.

During 1946 we had 83 grass fires, 42 false alarms, 8 fires from children playing with matches, 2 bonfires and two fires caused by boys loafing in shanties. I believe that 75 per cent of the above may be attributed to children.

The greater percentage of fires caused by juveniles are due to carelessness.

I would suggest that juveniles be organized into a junior fire department and be given instructions in what causes fires and the danger of fires and false alarms. I believe that through instruction and through motion pictures their cooperation and confidence can be gained. In this way, many false alarms, grass fires and other fires of similar nature will be eliminated.

C. N. Penn, Chief, Dallas, Tex.: Ninety-six fires have been caused by children during the period requested.

We have had 46 children up for questioning during this period. Most of them are between the ages of seven and fourteen. Loss in the 96 fires was $243,372. Thirty-seven of these fires have occurred this year, indicating a much higher number than last.

I feel that parents are to blame in most cases. If it is to be stopped, parents will have to take more interest in their children.

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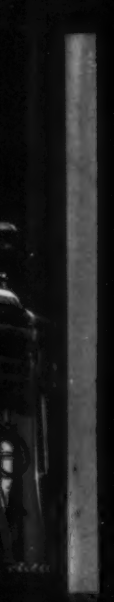

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